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# ALASKA MEDICINE



*Provideniya, USSR - 21 July to 3 August, 1990  
2nd Annual ICHS - U.S.A. - Murmansk - Chukotka Medical Expedition*

Official Journal of:

ALASKA STATE MEDICAL ASSOCIATION  
AMERICAN SOCIETY FOR CIRCUMPOLAR HEALTH



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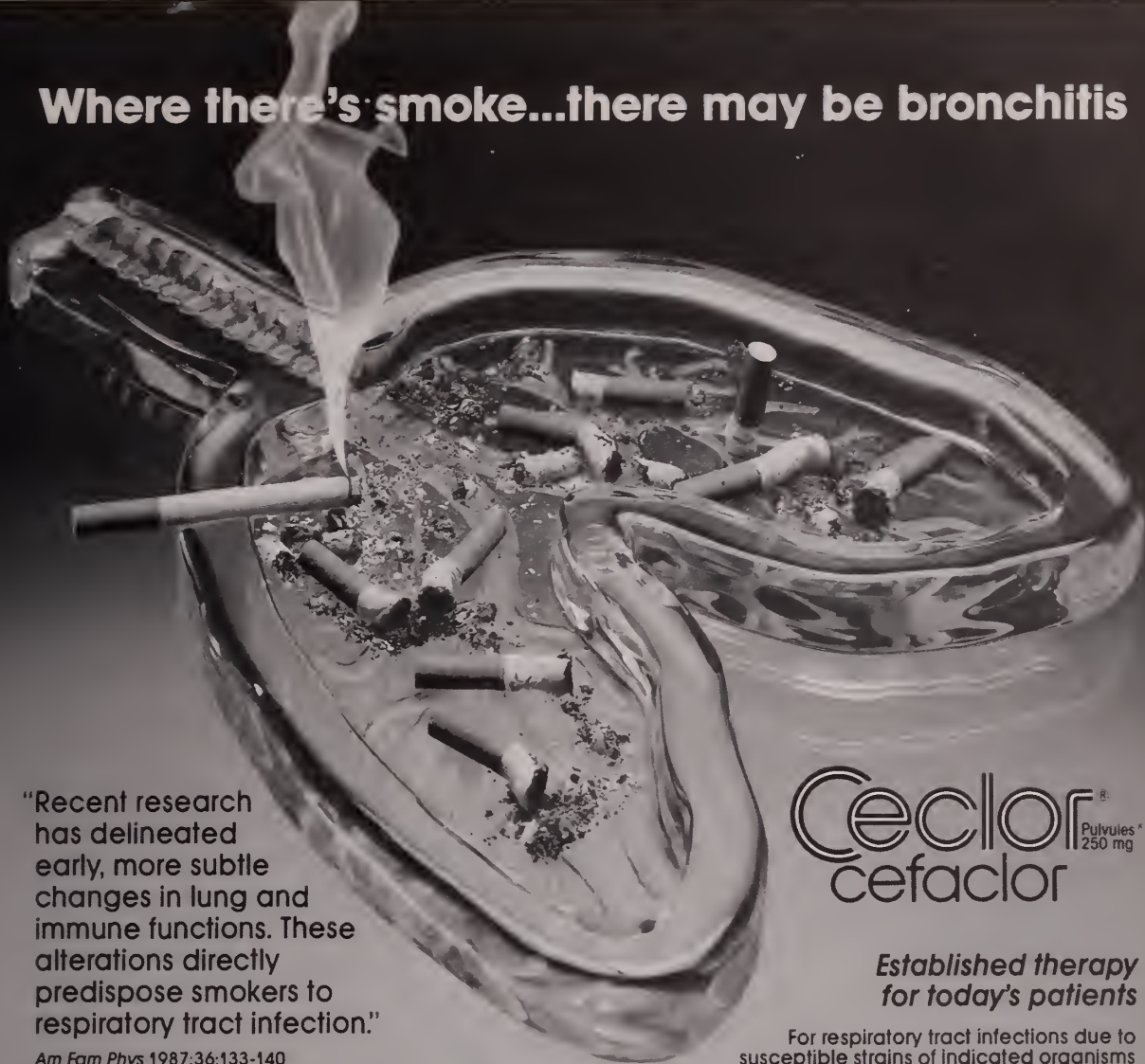
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*Am Fam Phys* 1987;36:133-140

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Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

#### Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of non-susceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

#### Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon.

Those reported include:

- Hypersensitivity reactions have been reported in about 1.5% of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions have been reported with the use of Ceclor. These are characterized by findings of erythema multiforme, rashes, and other skin manifestations accompanied by arthritis/arthralgia, with or without fever, and differ from classic serum sickness in that there is infrequently associated lymphadenopathy and proteinuria, no circulating immune complexes, and no evidence to date of sequelae of the reaction. While further investigation is ongoing, serum-sickness-like reactions appear to be due to hypersensitivity and more often occur during or following a second (or subsequent) course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults with an overall occurrence ranging from 1 in 200 (0.5%) in one focused trial to 2 in 8,346 (0.024%) in overall clinical trials (with an incidence in children in clinical trials of 0.055% to 1 in 38,000 (0.003%) in spontaneous event reports. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy; occasionally these reactions have resulted in hospitalization, usually of short duration (median hospitalization = two to three days, based on postmarketing surveillance studies). In those requiring hospitalization, the symptoms have ranged from mild to severe at the time of admission with more of the severe reactions occurring in children. Antihistamines and glucocorticoids appear to enhance resolution of the signs and symptoms. No serious sequelae have been reported.
- Stevens-Johnson syndrome, toxic epidermal necrolysis,

and anaphylaxis have been reported rarely. Anaphylaxis may be more common in patients with a history of penicillin allergy.

- Gastrointestinal (mostly diarrhea): 2.5%
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertension, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1% and, rarely, thrombocytopenia and reversible interstitial nephritis.

**Abnormalities in laboratory results of uncertain etiology**

- Slight elevations in hepatic enzymes.
- Transient lymphocytosis, leukopenia, and, rarely, hemolytic anemia and reversible neutropenia.
- Rare reports of increased prothrombin time with or without clinical bleeding in patients receiving Ceclor and Coumadin concomitantly.
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest<sup>®</sup> tablets but not with Tes-Tape<sup>®</sup> (glucose enzymatic test strip, Lilly).

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# ALASKA MEDICINE

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About the cover: Expedition members of the 1990 Alaska/Magadan Medical Expedition & Exchange. Photo courtesy of Theodore Mala, M.D., M.P.H., Director, Institute for Circumpolar Health Studies, University of Alaska Anchorage.



# The Commitment Continues

- *To be there* when you and your patients need us — allowing Alaskans to *stay in Alaska* for their care.
- To join with you in an effective effort to improve the health care environment of our state.
- To work towards better and more efficient ways to be of service to you.



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THE COMMITMENT CONTINUES



STATE OF ALASKA  
OFFICE OF THE GOVERNOR  
JUNEAU

February 1991

Dear Fellow Alaskan:

Alaska has emerged as a world leader in promoting international relations among circumpolar nations. Every year, more and more of our State and local governments, the University of Alaska and business groups exchange information with our circumpolar neighbors. One of the more visible examples of these interchanges is in the area of health and medical care.

This month's issue of Alaska Medicine highlights the experiences and observations of a group of Alaskan health care professionals' recent visit to our neighbors in the Soviet Far East. These reports clearly demonstrate the long-term value to both the Soviet Union and Alaska in continuing our collaborative work in addressing our common health and medical problems.

We should be proud of the Institute for Circumpolar Health Studies for taking the leadership role in promoting such international exchanges. I am certain that all Alaskan health professionals look forward to the results of the health research outlined in these reports.

Sincerely,

A handwritten signature in cursive script, appearing to read "Wally".

Walter J. Hickel  
Governor



**DEPT. OF HEALTH AND SOCIAL SERVICES**

**OFFICE OF THE COMMISSIONER**

3601 "C" STREET, SUITE 578  
P.O. BOX 240249  
ANCHORAGE, ALASKA 99524-0249

February 14, 1991

DEAR FELLOW ALASKAN,

Circumpolar Health is a dream that is shared in the hearts of many Northerners around the world. It is more than a dream. It has become a reality through our Circumpolar Health Conferences as well as the work of the International Union for Circumpolar Health.

The publication that you now hold in your hand represents the work of a group of dedicated Alaskans who went to the Magadan/Chukotka area to pursue their quest of clinical knowledge and learning through the Institute for Circumpolar Health Studies at the University of Alaska Anchorage. These men and women donated their time and own finances towards the building of the "Bridge across the Bering" strongly based on the years of friendship and collegiality that now exists between Alaska and Ministry of Health at Magadan, USSR.

The men and women of the Alaska Department of Health and Social Services will build on this document and use it to pave the way for our own expanded efforts in circumpolar health for the welfare and benefit of all Alaskans.

I wish to take this opportunity to salute those of you who continue to support the efforts of the Institute for Circumpolar Health Studies at the University of Alaska Anchorage. When the Alaska State Legislature founded the Institute in 1988, they gave it the mandate to work with the whole circumpolar world for Alaskans.

Special thanks also to our Governor, the Honorable Walter J. Hickel for his support and encouragement. Together we will continue to work towards a healthier and better world for Alaska and all peoples of the North.

Sincerely,



Theodore A. Mala, MD, MPH  
Commissioner

# FOREWORD

The Institute for Circumpolar Health Studies, (ICHS), University of Alaska Anchorage, is the result of many years of efforts by the northern health community to establish a circumpolar presence in Alaska. This serves to bring together the communities of the northern parts of the world to work together for our mutual health and welfare.

One of the most outstanding and successful results of the work of the Institute is that of its clinical field expeditions into the remote parts of the Soviet Union and specifically the Soviet Far East. The report before you represents the second such effort into the Magadan/Chukotka area. The 1990 Expedition continued to show a very strong commitment on the part of the private, state and federal health professionals of Alaska to work together with their colleagues in the Soviet Far East to amass the best knowledge of both systems for the benefit of all people. This report is a compilation of that effort.

We sincerely appreciate the dedication and hard work of the thirty-two members of the 1990 Expedition and their continued commitment to the Program.

The ICHS wishes to acknowledge the generous contributions of the Dictaphone Corporation, Burroughs Wellcome Company, and Patagonia, Inc., who helped make this Expedition possible.

Special thanks also go to the staff of the Institute, UAA Administration, Senators John Binkley and Jay Kerttula, Dr. Aleksei Lebedev, Minister of Health, Magadan Region and his staff, to the fourteen-member Soviet medical delegation who came to Alaska, and finally, to all the doctors, nurses and people of the Magadan/Chukotka Region who graciously shared their time and expertise with us.

We appreciate the dedication and vision of all these participants in our mutual quest for health and harmony for all people of the North.

## ADDENDUM:

Since the initial writing of this document, several notable events have taken place.

Dr. Ted Mala has become the Commissioner of the Department of Health and Social Services for the State of Alaska. A search has begun for a new Director of the Institute for Circumpolar Health Studies. The 1991 Alaska Magadan Medical Expedition and Exchange has been scheduled, with the Soviet delegation coming to Alaska in early June and the Alaska delegation going to the Soviet Far East from July 1-14, 1991. The first-ever medical evacuation from the Soviet Union to the United States occurred with the assistance of the Institute. A young Soviet boy was transported from Magadan to Alaska and on to a burn unit at the Shriners' Hospital in Galveston, Texas. He has since returned to Magadan. Another Soviet child had a cataract removed and received an interocular lens transplant in Anchorage and is expected to make a full recovery. The Bering Emergency Medical Services Committee formed by the Institute is working to establish procedures and processes necessary for future emergency services between the U.S. and the U.S.S.R.

The Institute for Circumpolar Health Studies wishes to recognize Dr. Ted Mala for his visionary leadership and unbounded enthusiasm for promoting research and communication among people of the northern regions regarding common health concerns. We thank him for his untiring efforts and wish him continued success in his new leadership challenges and opportunities for serving the people of Alaska.

Vic Fischer,  
Interim Director ICHS

Patricia Longley Cochran,  
Assistant Director ICHS

Ted Mala, MD, MPH  
Director, ICHS

# Editor's Notes:

Alaska and the Soviet Far East are neighbors. There are only three miles separating Little and Big Diomedes Islands in the Bering Strait, and only 50 miles across the Bering Strait from mainland Alaska to the Chukotka Region. Nome is closer to Anadyr than to Fairbanks, and Anchorage is as close to Magadan as to San Francisco.

Yet, despite our close proximity, we are only beginning to develop an understanding of the similarities and differences between our two nations and cultures. In the past few years, our mutual learning curve has accelerated dramatically. Frequent exchanges between Alaska and the Soviet Far East have excited the imaginations of people on both sides of the Bering Sea and have attracted world-wide attention. We have come to understand more about the nature and extent of health problems common to arctic and subarctic peoples.

The following articles summarize the observations of health care professionals who visited the Soviet Far East, from July 20 through August 3, 1990. The Alaska/Magadan Medical Expedition and Exchange was sponsored by the University of Alaska Anchorage Institute for Circumpolar Health Studies. Thirty Alaskans were accompanied by a Los Angeles Times reporter and a medical ethics consultant to study health care delivery systems in the Soviet Far East. Their visit was the second in the series of medical exchanges with the Magadan/Chukotka Ministry of Health.

Health care professionals were divided into groups representing their respective disciplines. Their combined observations include a general overview of health care delivery in the Soviet Far East, mental health care delivery, emergency medical services, the incidence of echinococcus multilocularis, dental health and prison health.

As with any cross-cultural investigation, there are some caveats to the information contained in these

articles. Significant differences in perspectives and philosophies often made the establishment of a common understanding of basic concepts difficult. These problems were further compounded by language barriers.

First, the structure of health care delivery in the Soviet Union is substantially different from that in the United States. This difference in the frames of reference made many of the questions posed by the Alaska delegation somewhat confusing to their Soviet counterparts. This confusion may have affected the answers to questions about techniques and systems for delivering needed health and medical care.

Second, conversations were conducted through Russian interpreters. Questions involving comparative delivery systems, clinical issues or statistical measures were prone to misinterpretation in the initial translation as were the responses from Soviet health care professionals. These possibilities of miscommunication were resolved in large part by the continual comparison of information and opinions among the Alaska delegation. However, there remains a possibility that information contained in the following article may be erroneous.

Notwithstanding these limitations, *Alaska Medicine* is pleased to publish these reports as one of the first descriptions of health care delivery in the Soviet Far East.

## EDITORS:

Brian Saylor, PhD, Affiliate Associate Professor, ICHS  
Patricia Longley Cochran, Assistant Director, ICHS  
Donald R. Rogers, MD, Editor, *Alaska Medicine*





## 1990 Alaska/Magadan Medical Expedition & Exchange

<b>Expedition Members</b>		<b>Group</b>
Allen, Robert	DDS, IHS, Bethel	Dental
Cangemi, Mike	DDS, Dir. Norton Sound IHS Nome	Dental
Carr, Steve	PA, Corrections, Fairbanks	Rural Services
Chamberlain, Linda	MPH, Epidemiologist, State of Alaska	Trauma
Craft, Charles	DDS, IHS, Bethel	Dental
DeVine, Em	RN, Palmer	Rural Services
Fuller, Julie	BS, Rph, Pharmacist, PHS, Homer	Rural Services
Grendahl, Marv	MD, Opthamology	Rural Services
Grosdidier, Kathy	BA, Dep Dir, SouthCentral Foundation	Mental Health
Hall, Bert	M.Div, MOA, Director, HHS	Alcohol/Rural
Helmuth, Brian	Computer Specialist, ICHS	Administration
Hillinger, Chuck	Journalist, LA Times	Administration
Holloway, Mike	MD, Orthopedic Surgeon, IHS	Trauma
Johnson, Mark	Chief EMS, State of Alaska, Juneau	EMS
Jones, Davis	DDS, MPH, Dentist, Administrative IHS	Dental
Knodel, Dorcen	Social Service Clinician, North Slope Borough, DHSS, Barrow	Rural Services
Kliks, Mike	PhD, Dir. of Laboratories, Honolulu, HI	Parasitology
Mala, Ted	MD, MPH, Director, ICHS	Administration
Mala, Nancy Edtl	RN, ICHS, Expedition Coordinator	Mental/Rural
Morgan, Robert	MD, Psychologist, SouthCentral Foundation	Mental Health
O'Connor, Steve	MICP, Director Paramedics, Kenai	Trauma/EMS
Ranch, Roger	PA, Orthopedics, IHS, Bethel	Trauma
Richards, Bill	MD, Psychiatrist, IHS	Mental Health
Robbins, Dennis	PhD, Health Consultant	Administratiior
Royer, Royann	RDH, MPH, Asst Prof, UAA Dental Hygiene	Dental
Ryan, Joe	MSW, Director, IHS, Bethel	Rural Services
Saylor, Brian	PhD, Health Planning, Municipality	Alcohol/Rural
Scott, Karen	BSN, NP, Occupational Health, UAA	Mental Health
Starostka, Kathy	MSPA, Social Worker, Administration, Sitka	Alcohol
Wilson, Joe	MD, Echinococcus Multilocularis	Parasitology
Wilson, Carol	RN, Echinococcus Multilocularis	Parasitology
Winn, Wandal	MD, Psychiatrist	Mental Health

# Soviet Delegation to Alaska

## August 1990

NAME	POSITION
1. Beljaeva, Zinaida Dmitrievna	Chief Doctor of Children's Hospital
2. Belkin, Alexander Leonidovich	Chief Doctor, Omsukchan Region
3. Fiodorova, Vera Michailovna	Doctor, TB Hospitals, Pevek
4. Goncharenko, Alexander Anatolyevich	Deputy Minister of Magadan Ministry of Health
5. Hvan, Yuri Chensonovich	Chief Doctor, Anadyr District
6. Kapralova, Valentina Vasiljevna	Chief Doctor, Dental Clinic, Magadan
7. Kruchinina, Svetlana Semenovna	Deputy Minister, Ministry of Health, Russian Republic
8. Ladis, Valentin Alexandrovich	Flight Surgeon General, Aeroflot
9. Petrov, Vitaly Petrovich	General Director, Production Union "Pharmacology"
10. Riasantsev, Boris Ermacovich	Correspondent, Soviet Medical Newspaper "Gazetta Medinsynskya"
11. Sergeev, Vladimir Victrovich	Chief of Cardiology, Magadan Regional Hospital
12. Sokolov, Vitaly Nikolaevich	Director, Chukotka Regional Hospital
13. Tambortzev, Alexander Alexeevich	Chairman, Trade Union of Medical



# The Lands and Peoples of the Magadan/Chukotka Region of the Soviet Far East

## ABSTRACT

Geographic, environmental, and cultural similarities as well as historical relationships between Alaska and Magadan/Chukotka people were identified as commonalities. This led to suspect existing similar health concerns and a desire to compare health care delivery. The Organization of Ministry of Health was outlined and Soviet personnel, i.e., feldshers, stomatologists, were described by function and educational preparation as compared to caregivers in the United States.

## INTRODUCTION

The frequent interchange between Alaska and the Soviet Far East has clearly demonstrated how much we have in common. We have a similar climate, a population thinly distributed throughout a vast terrain or clustered in population centers, and similar health and human service problems. Health professionals on both sides of the Bering Straits agree that we have much to learn from one another.

This article briefly describes the lands and peoples of the Magadan/Chukotka Region of the Soviet Far East. The information presented here is a useful reference for the following articles describing various aspects of health and medical care delivery in the Magadan/Chukotka Region.

## HISTORY

Alaska and the Soviet Far East share a common history. There is a long history of travel and trade across the Bering Strait between Alaska and the Soviet Far East. For centuries, Eskimos traveled regularly between Chukotka, St. Lawrence Island, Seward Peninsula, and Big and Little Diomed Islands. In more recent times, whalers, traders, gold miners, missionaries, and tourists have been frequent travelers between Alaska and the Soviet Far East.

The Cold War, however, eliminated almost all contact between Alaska and the Soviet Far East for four decades. As a center of the Gulag labor camp system, a strategic military location close to Alaska, China, and Japan, and because of fears that gold might be smuggled from the mineral rich area, the Magadan/Chukotka Region was closed to foreign visitors in 1948. Travel

even for Soviet citizens was strictly controlled. Subsequently, Alaska was closed to visits by Chukotka Eskimos, an action for which J. Edgar Hoover had lobbied.

In the past few years, with the advent of Glasnost and Perestroika, the Magadan/Chukotka Region has begun to open again, although free movement of tourists to the region is still not permitted. One of the more visible examples of this change in Soviet policy is the increasing frequency of exchanges among Soviet and Alaskan health professionals.

## THE LAND

The similarities between Alaska and the Magadan/Chukotka Region are striking. Most travelers from either nation remark about how at home they feel while visiting their neighboring country. The tundra and low mountains surrounding the port city of Provideniya, which greets most Alaskan travelers, looks much like the Baird Mountains on Alaska's Seward Peninsula. The terrain around the inland city of Bilibino, with its low mountains, fireweed and spruce, reminds the Alaskan traveler of Fairbanks. The similarities of geography and climate suggest that we may have much to learn from our Soviet counterparts.

The geography of the Region is of two basic types. The first is the boreal forest belt or taiga which covers much of the southern part of the Magadan/Chukotka region. It is a mixture of forests, swamps, natural pasture, meadow and other types of landscapes. The poor soils and harsh climate may account for the typically low population densities. Farther to the north, approaching the Arctic Ocean, the taiga is gradually replaced by the barren treeless tundra. In the Magadan/Chukotka Region, the mountainous terrain has the effect of extending this tundra region far to the south. (1)

Natural resource development is the mainstay of the regional economy, although government and military activities and traditional subsistence activities are important.

Coal and iron ore are also important components of the economy, but, as in Alaska, oil and gas reserves are Siberia's most significant natural resources. Siberia has a natural gas pipeline and its oil pipeline is larger than Alaska's. The U.S.S.R. claims to produce a million tons of oil and 35 billion cubic feet of natural



gas each day.

The Regional economy has depended on reindeer, fish, and mineral development. However, the tundra is now reportedly 70% over-grazed and 5% destroyed, and fishing is being impacted by polluted waters. Long-term economic future for the region is therefore unclear. Infrastructure needed for economic development would require considerable work.

## THE PEOPLE

The populations of Alaska and the Magadan/Chukotka Region are similar. Both regions have predominantly non-Native urban populations and predominantly Native rural populations which have faced dramatic economic and cultural changes in recent decades. The higher proportion of males in the Magadan/Chukotka Region is similar to the population distribution in Alaska a few decades ago.

The cities of Anchorage and Magadan are at the same latitudes. Anchorage, the largest city in Alaska, has a population of about 240,000, slightly larger than Magadan's population of 160,000. Table 1 compares the population of the Magadan/Chukotka Region with that of Alaska.

Table 1

### Comparative Demographic Characteristics

Area	Population	Males	Females
Russian Republic	150,000,000		
Magadan/Chukotka	560,000	64%	36%
Magadan	404,000		
Chukotka	156,000		
Alaska (3)	537,000	52%	48%
Anchorage(4)	218,979	51%	49%
Alaska Native (3)	78,600	50%	50%
United States (5)	226,545,805		

The population of Siberia and the Far East has grown considerably since 1926. Prior to that, the region was populated mostly by scattered native villages and nomadic reindeer herders. Now there are reports of the region's population declining due to out-migration of the past few years because of the improvement of conditions in other parts of Russia from Perestroika and Glasnost.

Reindeer provide both a livelihood and subsistence to many of the indigenous people of the Region. There are 24 reindeer herder camps, approximately 250 total reindeer herders, with between 10 and 12 herders and

their families in each camp. Herds range in size from 3,000 to 8,000, with the total herd being 15,000 to 30,000. The reindeer herders move every 2-3 days. Providing health services to these nomadic people requires mobile clinics and a sensitivity to the herder's culture.



People at reindeer herder camp.

Natural increase has been responsible for little of the population increase. Two factors appeared to be largely responsible for the initial increase in population: the development of "new towns" to support mineral extraction, and the concentration of prisoners in the Far East begun during the Stalin Era.

The Soviet government created migration incentives to expand the amount of available labor to meet its industrial or mineral extraction needs. The success of these policies was especially marked in pioneering regions undergoing rapid resource development such as the Magadan/Chukotka Region.

One of the strategies used to increase the labor force within frontier regions such as the Magadan/Chukotka Region was the reliance on "new town" development by industrial ministries. Many of these towns were built in the late 1930s and early 1940s as prison camps or "gulags" during the Stalin era. Several became centers for mining activities including gold, uranium and tin.

In spite of the efforts to develop these settlements, there continue to be numerous problems which accompany the rapid resettlement or influx of working populations into the Soviet Far East. These problems include the breakdown of the extended family and other social support systems, problems with housing space allocations, inadequate income to meet the higher cost of living in the Far East in spite of wage adjustments, and problems with housing services, including running and hot water, central heating and sewage disposal (6).

The Alaska delegation visited many of the major cities and towns in the Magadan/Chukotka Region. The comparative statistics presented in Table 2 are based on conversations with numerous Russian col-



leagues. Where possible they have been verified with published data from the Soviet government.

## GOVERNMENT

The Magadan/Chukotka Region is a part of the Russian Republic, the largest of the republics in the Soviet Union in both population and territory. In recent months the Chukotka Region has become an autonomous region separate from the Magadan Region. However, for the purposes of this article, the Magadan/Chukotka Region will be described as it existed at the time of the medical exchange.

**Table 2.**

### Populations by Region and City

<u>Region</u>	<u>City</u>	<u>Population</u>
Magadan	Magadan	180,000
	Bilibino	18,000
	Pevek	14,000
Pevek		34,000
Native <u>Chukchi</u> Villages (Mining Centers)	Aion	900
	Rytkutchi	2,000
	Shelogsky	1,500
	*Krasnoarwisky	2,500
	**Komsomolsky	3,500
Chukotka	**Boranikha	1,500
	*Valkumay	1,100
		156,000
	Anadyr	20,000
	Provideniya	5,000

\*\* Gold \* Tin

The Magadan/Chukotka Region was divided into 16 districts. This is important in the organization of all public enterprises, including health and medical care delivery. The Chukotka region was split into eight regional centers, each region having settlements ranging in size from 200 to 500 up to 1,000.

## HEALTH STATUS OF MAGADAN/CHUKOTKA REGION

The four leading causes of illness and death are reported to be (in rank order) cardiac disease, cancer, respiratory problems and trauma. The reason that trauma is not ranked higher than fourth is probably attributable to the low number of motor vehicles. In Alaska, the leading causes of death are cardiac disease, cancer, unintentional injuries and suicide. Even if chronic obstructive pulmonary disease, pneumonia and influenza were added together, they would not raise respiratory problems into the top four causes of death

(7). As in Alaska, alcohol abuse is a major contributor to injury and death.

## IMPLICATIONS FOR HEALTH SERVICES

The geography and demographics of the Soviet Far East have a significant influence on health problems and the systems designed to address them. First, the Magadan/Chukotka Region is a large area with relatively underdeveloped transportation and communication infrastructure. This makes the population relatively difficult to serve from a logistical perspective. In response, Soviet health care professionals make frequent use of "Medic" boats, helicopters and mobile medical teams to serve remote, scattered and occasionally nomadic populations. These, together with local "feldshers" (mid-level practitioners), clinics, and small hospitals are important parts of the health care delivery system.

The population of the Soviet Far East is not primarily indigenous. Migrants to the Region do not often have the extended families and other support systems. This may influence the extent and severity of "life crisis events" and the accompanying use of mental health services. In addition, the climate has substantial effects on the mental health of residents of the region. Seasonal changes of the arctic environment, on types of problems seen, have implications for mental conditions such as seasonal affective disorder (SAD).

Problems with allocation for housing space and housing services, including running and hot water, central heating and sewage disposal, create problems for basic environmental sanitation.

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# Health and Medical Care Delivery in the Soviet Far East

Health care is given a high priority in the Soviet Union. This priority is derived, at least in part, from the Soviet philosophy and the need for industrial and economic development. Health and medical services in the Soviet Far East reflect the government's concern for the health of its peoples.

With few exceptions, health and medical care is provided by a state supported system. Medical care workers, including administrators, physicians and nurses, work for the Ministry of Health. Medical care, including inpatient and outpatient services, are free to Russian citizens.

This paper briefly describes the organization of the medical care delivery system in the Soviet Far East. First, the bureaucratic structure of the medical care system is described and the similarities and differences with medical care delivery in Alaska are highlighted. Next, the characteristics and use of inpatient and outpatient facilities and services are described, followed by a discussion of health care manpower availability and training. Last, Soviet health care financing mechanisms, including recent developments in the evolution of the Soviet fee for service system and health care planning and budgeting processes, are outlined.

## HISTORICAL BACKGROUND

Historically, ill health is seen by the Soviet system as arising not merely from social factors, but explicitly from capitalism. In the early days of the Russian Revolution there was the expectation that the Revolution would lead to the elimination of disease and ultimately the withering away of clinical medicine. "Revolutionary medicine meant the democratization and deprofessionalization, in which the content and practice of medicine was not defined by the party member, the bureaucrat or the expert, but by the collectivity of the population." (1, p.111).

George (1980) writes that the reorientation of medicine from need for medical care to labor discipline was aided by the continuing drop in the status of the medical profession. And as the status of medicine dropped, so did the availability of instruments, drugs and buildings. As a result of the general downgrading of the profession, and because men were needed in heavy industries, women were actively encouraged to take up medicine.

By the 1930s, the Ministry of Health had become far more powerful than the medical profession or the

patients. The power of the Ministry was reflected in the regular planning cycle which defined the medical care needs of the Soviet people. In subsequent years, the legitimate medical needs of the people and the services to meet them were planned centrally by the Academic Semashko Institute and implemented through a highly centralized control of budgets and exercises of power over planning norms and standards (2).

During the Stalin era, the most important task of the medical care system was to ensure that only genuine illnesses justified a worker's absence from his or her job. (2, p. 110). Pursuing that general philosophy has led to the system of health care in the Soviet Far East as we know it today.

## ADMINISTRATION

The day-to-day administration of the Soviet health care delivery system appeared to be delegated to the local level. However, the resources available to administrators were allocated in the planning arms of central ministries. As with many other centrally planned health care systems, the planning bodies at the Ministry of Health have developed complex methodologies for estimating the need for inpatient and outpatient care. These are described in detail by Bogatyrev (3).

Regional health care policy and general overview were the responsibility of an Executive Committee. The size of membership of this group was not known. The Minister of Health for the Magadan/Chukotka Region was a physician responsible both to the Committee and to the Minister of Health for the Russian Republic. The Minister of Health directed a core staff composed of five Deputy Ministers. The "first among equals" was the Deputy of General Services for Adults. He directed the other four Deputies, coordinated with the Executive Committee, and oversaw prevention and treatment programs for adults. The Deputy for Maternal and Child Health oversaw all services provided to mothers and children. A third Deputy handled social services and human services, and managed the research function. The fourth Deputy oversaw budget and finance, hospital construction and facility maintenance. The last Deputy handled catastrophic emergencies and citizen defense. Sanitation and Epidemiological Stations throughout the Region were responsible for environmental health and communicable disease control and appeared to be semi-autonomous. There were



various other Departments such as Aviation which assisted, as needed, in arranging for helicopters and planes for patient and Medical personnel transport. An organization chart is shown in Figure 1.

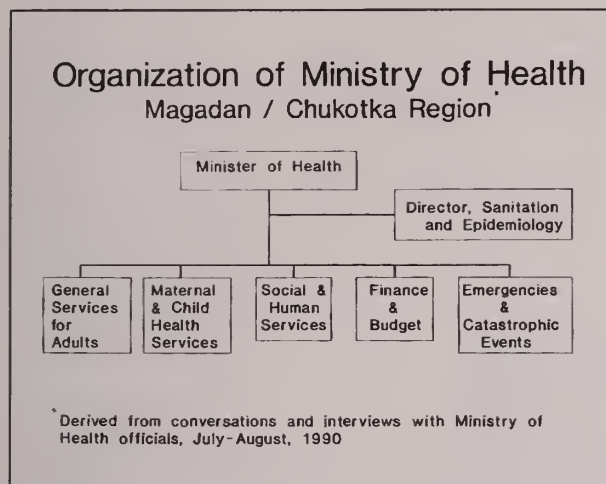


Figure 1.

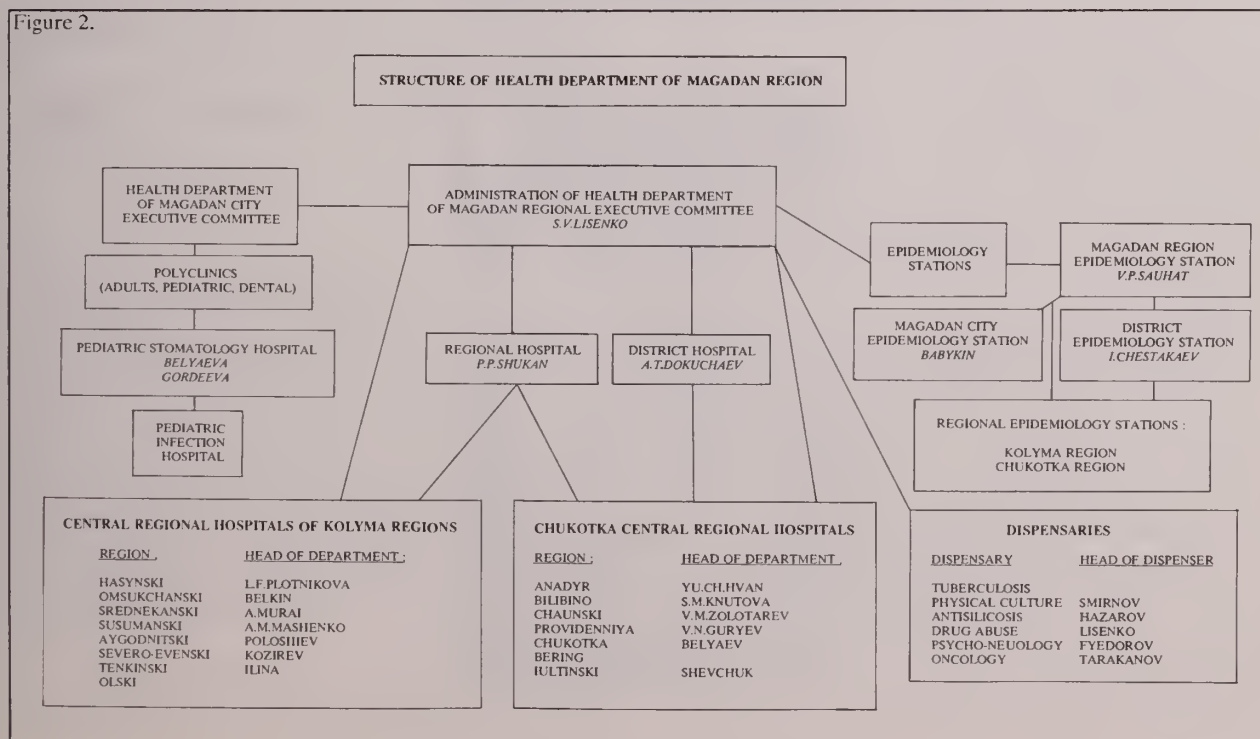
Since the July visit to the Magadan/Chukotka Region, the Minister of Health has resigned and a new chief has been appointed. During a recent visit to Alaska, the new ministry was asked to describe the organization of the administrative staff. The resulting organization chart does not resemble that derived from conversations and interviews conducted by the Alaska delegation while in Magadan. This chart is shown in Figure 2.

Each of the sixteen districts within the Magadan/Chukotka region contained a central hospital or inpatient facility managed by a chief doctor. These doctors were also responsible for the supervision of outlying clinics. All the hospital administrators reported to these deputies according to the type of question they asked or the type of direction they sought. Health service providers in each of the Districts reported to the physician administrator at the district hospital.

## ORGANIZATIONAL STRUCTURE

The Soviet health care system is a publicly financed and organized means of delivering health care to the people of the Soviet Far East. Hospital planning and construction are centrally managed through the Ministry of Health in Moscow and implemented through its counterpart, Ministry of Health of the Magadan/Chukotka Region, headquartered in Magadan.

Services in the Magadan/Chukotka Region are organized in a fashion much like those in Alaska. The Alaska system is organized according to level of care described in the *State Health Plan for Alaska* (4). This system of organization, common to many developing countries are publicly organized and providing health care delivery, is arranged to provide adequate primary care to the greatest number of people. Care is typically provided by paraprofessionals. Complex cases are referred to regional centers which can provide more sophisticated diagnostic and treatment services. Higher levels of care provide increasingly sophisticated diagnostic and treatment services.



In the Magadan/Chukotka Region, small villages have one doctor and a small polyclinic (outpatient clinic). If the village is very small, there may be a "feldsher/midwife" instead of a physician. For a bigger settlement, one can expect a ten-bed hospital and a polyclinic. Back-up for the other health care centers is provided by small central regional hospitals.

If patients cannot be treated there because of specialized needs, the "Chief Doctor of the Region" can refer patients to the bigger district hospital. These general hospitals typically have approximately 200 beds, plus a 20-bed facility for acute psychiatric patients, a 20-bed facility for narcology (alcohol de-tox) patients, and various types of clinics including a childrens' polyclinic. Patients who cannot be treated there are referred on to the more specialized facilities in Magadan.

This system of organization lends itself very well to the centralized Soviet planning and budgeting system and a government sponsored and controlled system of medical care.

## FACILITIES

The delivery system in the Soviet Far East is facility-based. There are basically three types of facilities: hospitals, polyclinics (general outpatient settings) and sanitoriums.

There are about 13,000 hospitals in the Russian Republic with about 2 million beds. Table 1 compares the bed to population ratio of Magadan/Chukotka Region, Alaska and the United States. The published standard for hospital beds in urban USSR populations is 12.87 per thousand population (3, p. 371). The primarily rural regions of the Russian Republic and the Magadan/Chukotka Region tend to require a higher bed-to-population standard.

Hospitals and other health care facilities in the Soviet Far East are typically constructed of poured or prefabricated concrete panels which have been welded together. Most of the facilities visited by the Alaskan delegation appeared to be aging and were often in need of repair.

Patients are kept in Soviet Far East hospitals longer than in urban Alaskan hospitals. Statistics show that the average length of stay in the typical Soviet hospital more closely resembles that of the average Public Health Service length of stay than the length of stay in an Anchorage private hospital.

One possible reason for this difference is the absence of a continuum of care. Services outside acute care facilities such as skilled nursing care, intermediate care and other types of rehabilitative care are largely absent. One health official said "The people stay till they are better".

Another possible reason for a reliance on facility-

based care is the economies of scale it affords. By having these centralized systems, Soviet health care providers could more closely monitor patients while avoiding the need to construct a variety of facilities.

Typically, there are four to six people in a hospital room, as compared with one or two in an Alaskan hospital. The hospital seemed very clean and uncluttered. There was a far more serene atmosphere than in an acute care hospital in Alaska. There was much less use of technology such as IVs (intravenous fluids), nasogastric suction, or urinary catheters.

Outpatient services are provided in Polyclinics. Adult polyclinics are generally staffed at a level of one internist and a nurse for every 2,000 people. Pediatric polyclinics are staffed with a pediatrician and one or two nurses for every 1000 children under the age of 14 (5).

Sanitoriums or health resorts are an important part of health care in Russia and especially in the Soviet Far East. Sanitoriums provide nursing services to convalescing patients, preventive services to those who were not in need of hospital admission, and rest and relaxation in a controlled, healthy environment for industrial workers and their families. While the total number of sanitorium health resort beds could not be estimated during this visit to the Magadan/Chukotka Region, facility to population standards recommend 4.76 beds per 1000 population (3, p. 327). Supplies and pharmaceuticals appeared to be in chronic short supply for each village hospital and clinic as well as Pevek Hospital which were ordered from a central source in Magadan. Transfer of inventories from one location to another within the Region was accomplished only when a crisis arose and was apparently quite rare. Hoarding seemed a common activity at the village level.

Much of the equipment looked aged. This observation was confirmed by the Deputy Minister of Health of the Russian Republic.

## SERVICES

Hospitals in the Magadan/Chukotka Region provide basically the same array of services as hospitals in Alaska. While the technical sophistication of services provided does not rival that of most urban Alaskan hospitals, the basic array of medical, surgical, pediatric, and maternity services are available. The 750-bed Magadan Regional Hospital has a CAT-scanner that was recently purchased in an arrangement organized by the Institute for Circumpolar Health Studies. However, sophisticated diagnostic and surgical procedures cannot be accommodated through the existing hospital system.

Outpatients services are provided in polyclinics. The Magadan polyclinics have the following departments:



## Outpatient Surgery Eye, Ear, Nose/Throat Services

Laboratory  
Electro-Cardiology  
Physical Therapy

Radiology  
Endoscopy  
Gynecology

Dental operatories are also located in the polyclinics.

In Pevek there are 500 deliveries per year. Means of birth control are inconsistently available from the Pharmacy, resulting in a high number of unwanted pregnancies and about 450 abortions performed per year. The total budget for medical care delivery in the Pevek Region is approximately 5,000,000 Rubles.

Polyclinics in the Soviet Far East provide more unusual non-invasive diagnostic and treatment procedures than do their counterparts in Alaska. For example, many traditional home remedies are used in hospitals. Herbal medications, mud packs, poultices and medicinal slush are common. Devices that provide mild to intense electrical stimulation are frequently found in diagnostic as well as physical therapy units. Ultra-violet light is often used to control the spread of upper respiratory infections by focusing the light on the sinuses, nose, mouth, and throat of youngsters. Ultra-violet light is also used to disinfect the sleeping quarters in children's sanatoriums and day-care centers.

## MEDICAL RECORDS

An individual's clinical record is hand written and follows the patient throughout life. An individual's clinical history and treatment records are entered into the same binder. Everything from clinical notes to lab reports are included. One possible problem that the Soviet Union, especially the Soviet Far East, could encounter is an increased reliance on computerized clinical records systems. Once clinical records are automated or computerized, the records will no longer be easily transportable.

## PERSONNEL

Medical manpower in the Soviet Union closely parallels that in the United States. Physicians are highly trained, but do not have the extent of education of US physicians. Soviet "feldshers" are roughly equivalent to our physician assistants. They have a higher status than nurses.

## PHYSICIANS

In 1977, the Central Committee and Council of Ministers developed incentives for physicians to stay in rural practices. In this policy, they awarded up to three times urban salaries after 10 years, plus an opportunity to buy a car, to buy food direct from State farms, and free housing (2). About two thirds of the physicians are women. Most of the male physicians are in administrative positions with the comparable data for the US as approximately 85% men. There are four basic types of physicians, and a career choice among the types must be made very early, for the training of each is different. There are:

1. *Therapists* (adult primary-care physicians; often translated general practitioner or internist but not really fitting the American picture of either).
2. *Hygienists* (sanitarian-epidemiologist-hygienists).
3. *Pediatricians* (children's primary care physicians, not quite as specialized as American pediatricians).
4. *Stomatologists* (close but not identical to the American dentist; with more emphasis on diseases of the oral cavity and some what less on teeth).

The student physician enters a training institute after 10 or 11 years of general education and often after that completing one or more years of work experience. A child's general education starts at age 7 after kindergarten, therefore, a student would be 17 or 18 years old



Ilizarov procedure being performed in Pevek.



Ilizarov procedure patient in Pevek.

when entering medical school. Training takes 6 or more years (longer if he chooses to take time off for work or research during the course).

After 3 years of "directed" services, often in a rural area, subspecialization may be sought; for example, the therapist may become an endocrinologist, general surgeon, or psychiatrist, and the pediatrician may become a children's rheumatologist or children's surgeon. The brightest medical graduates are permitted to specialize immediately after graduation and omit the "directed" service.

After graduation, three years or more of practical service is assigned, often to rural and remote areas. A year of internship is also required after graduation from the medical institute to receive the doctor's diploma.

Every 5 years physicians are required to pass a comprehensive examination to monitor status. Continuing medical education is available and typically is of one to four months duration in Magadan.

Physicians make 200-300 rubles per month (equivalent to \$40 per month or so in U.S. dollars). There is a differential for working in the Soviet Far East, raising monthly salaries to 500-600 rubles depending on experience and administrative responsibilities. There is a bonus for longevity, so that workers staying longer than 5 years can make about 700-900 rubles per month. There are also provisions for housing (equivalent to 30-40 rubles per month), free medical care, etc. However, this salary is still quite low compared to factory and farm workers who have been more valued since the Russian Revolution than "intelligentsia" such as doctors, nurses, and teachers.

## **NURSES**

Nursing education is not as strict as that in the United States and there is no master's degree level. The higher number of physicians is reflected in the lower number of nurses. Nurses are considered lower level status workers, lower than the feldsher who in turn have less status than the doctor.

A person enters nurse training after eight years of general education. The training, which lasts two years, includes: lecture on the history of psychiatry, the nurses' work in a psychiatric hospital, the educator role, handling of emergencies, diagnostic laboratory methods, basic structure and function of the nervous system, and general psycho-pathology. There are also three and four year nursing programs but the difference in content was not determinable.

## **FELDSHERS**

The feldsher is a unique type of health worker

somewhat like our village health aide but with more advanced training. Feldsher is a word in Russian meaning "middle-medical worker" or "medium - grade medical worker". The profession of feldsher is itself split up into specialties; "ordinary" or "general" feldshers, "sanitarian-feldsher", laboratory-feldshers, "midwives's", and "feldsher-midwives", combining the functions of both.

In urban areas, they work directly under a physician's supervision, often within a medical team. They serve in the polyclinics, ambulance services, industrial medical stations, and, to a lesser extent, in hospitals. The sanitarian-feldsher and the laboratory-feldsher have more specialized functions as their titles imply.

The general feldsher in a rural area plays a broader role. He/she usually works in a feldsher-midwife station located in a village or on a collective farm and practices relatively independently of physicians except for regular supervisory visits. The work of the feldsher-midwife station includes the following: epidemic control measures; reduction of childhood morbidity and mortality; early case finding; observation and medical service for tuberculosis (under the guidance and in accordance with the instructions of a doctor), malignant tumors and other diseases; timely provision of "pre-doctor medical aid" to adults, women, and children and the carrying out of therapeutic procedures prescribed by the doctor; "sanitary and hygienic measures to improve the living and working conditions of the people engaged in farm production"; and health education for "implanting the necessary hygiene habits in the rural population". In carrying out this work, the feldsher sees patients at the feldsher-midwife station, makes home visits when needed, provides pre-doctor medical aid during acute crises and refers patients to the hospital with an unclear diagnosis requiring a physician's attention. These functions are similar to those of a village health aide in Alaska.

However, there are other functions that are more responsible than most health aides in Alaska. These functions include: assuring job placement recommendations are carried out by the administration of the collective and state farms; performing medical exams on teachers, people working in nurseries, kindergartens, stores, and dining rooms; providing psycho-prophylactic training (natural child birth) training; providing medical service for nursery, kindergarten, and school children; ensuring systematic observation of the health of young children and seeing children under one year of age at least once a month to determine developmental progress with pediatrician consultation as necessary.

Feldsher education is more extensive than Alaska Health Aide education. Although the Soviet physicians have less specialized training than physicians in



Alaska, there are more of them, and there are more mid-level practitioners (feldshers) to cover the needs of rural community health care.

Table 1 contrasts the training requirements of the three major health professionals.

There is also more emphasis on training local people from a community including individuals for the role of physician. Khabarovsk, for example, has taken the position that the common approach to the recruiting and retention of Natives into medical school had not worked. They designed a special program to recruit, retain, and support Natives from bush communities in a special Native pre-medical training program.

It consists of taking Native students from rural areas into Khabarovsk. There they are under the supervision of the medical school, housed in a special dormitory where they live together with their teachers and attend classes on site and in the local high school. If the students successfully pass their pre-medical courses, they are guaranteed, without further examination, admission into the medical school.

An attractive point of this program is that the very serious problem of retaining ties to one's village is addressed. Designed into the program is a method for sending Natives students back to their home villages on a regular basis, rather than training people in urban centers, who then remain in urban areas to practice when they had completed their training.

(Soviet economists do not make use of the Gross National Product in their calculations). This appears to be somewhat low. Romer (6) estimated an average of 4%, varying from 3.9 to 4.2 percent in recent years. This compares with our 12%, soon to be 15% of the Gross National Product spent on health care.

However, the Soviet government appeared to be setting a target two to three times the current spending levels; between 6 and 10% as a minimum that should be spent. The new administrator clearly was disturbed now that he learned that his ministry was not being given the kind of resources that the priority would suggest.

A big difference between the two countries' systems is evidenced by the impact of the fee-for-service. This clearly influences the amount and quality of medical equipment and facilities. By Alaskan standards, there are inadequate services, outdated medical equipment and a shortage of drugs. In addition, the patient is unable to freely choose his or her own physician. He or she has access only to physicians centrally appointed to particular districts. The doctors themselves can only refer their patients to centrally approved and regionally specific hospitals and clinical wards. This type of system tends to react slowly to social needs and with large numbers it is somewhat impersonal.

The budgeting process used by the City of Magadan Health Department is very similar to those used in Alaska. One major difference is that the Department of Health and Human Services enjoys about 5% of the Anchorage \$200 million dollar budget. The health budget for the City of Magadan is 5 times that - amounting to 25% of the total city budget. Again, this reflects what they perceive to be a very important priority placed on health care. Approximately 60% of their total budget is for

personnel costs which is a similar percentage in Anchorage.

However, there are some anticipated changes (7-9). In 1991 the Soviet doctors and hospital administrators are looking forward to a shift in responsibility, budget responsibility, and programs administration. The Ministry of Health in Magadan now controls all health and medical resources within the guidelines established by the central Russian Ministry. Magadan controls the budgetary process and how a program is planned at the local level. Starting in January of 1991, the plans were to change this budgeting system. It is expected to become a system where monies, based on

TABLE 1.

**Education of Medical Professionals**

Type	Basic Education		Professional	Internship or
	High School	Work	Education	Post Graduate
Physician	10-11 yrs	2 yrs	6 yrs	3 yrs
Feldshers	8-10 yrs	none	2.5-3.5 yrs	none
Nurse	8-9 yrs	none	2 yrs	none

**FINANCE**

The Soviet health care system is financed by the government. There is little financial obligation of any patient to pay for services. The two exceptions to this are for preventive services provided in sanatoriums and for some fee for certain health care services, mostly dental services.

A recent article in "Soviet Union Today", reported an interview with the Director or the Administrator of Health Care for the entire Soviet Union. He discovered that they're currently spending about 3% of the Total Soviet National Income on health and medical care.



a per capita distribution, will be given to the Chief Doctors in each settlements' medical facility. The local Chief Doctor then will have the responsibility to decide whether to treat a patient locally or send the patient to the Central Regional Hospital.

There also will be incentives for treating patients locally, since the physician saving funds can get a percentage of those savings: a bonus plus the base monthly salary. However, a Commission will be reviewing quality of care and if a decision to treat locally leads to poor results, part of the costs will be deducted from the physician's base monthly salary.

## CONCLUSIONS

There are a number of general conclusions about health services in the Soviet Far East.

1. Programs seem to be more facility-based than in Alaska. There is less emphasis on community development, education, or alternative types of facilities; i.e., nursing homes, half-way houses, intermediate care facilities, etc.

2. Since care is paid for by the government, there seems to be minimal pressure for "utilization review", avoiding unnecessary admissions, rapid discharge etc. Patients can basically stay for extended periods: months at a time in the "acute" facility and indefinitely in the "psycho-chronic" facility. When they are ready for discharge, they return home without going to a "step-down" facility.

3. Medical manpower does not appear to be as well-trained as those in the United States of America, with the exception of feldshers. The medical disciplines do not have the same high status as they do in the United States. However, practitioners are equally as dedicated, professional and caring as those in Alaska and the U. S.

4. Treatment and diagnostic techniques are often less invasive, less sophisticated and less dependent on technology than those used in Alaska. While many might not pass the test of scientific scrutiny for use in US practices, they should be evaluated.

5. The practice of medicine and especially the extensive physical therapy involved a good deal of personal interaction and "attending" to the patients' complaints. Although highly labor intensive, this "caring" aspect could be evaluated in USA medicine for positive effect; particularly in light of the Soviet government's inability to provide advanced technological care to all people because of resource limitations.

An aspect of this full, highly bureaucratic delivery system is the apparent positive rapport between patient and caregiver as well as the general unhurried atmosphere in both the hospital and the outpatient clinics. One has a sense that respect and individualism is accorded to each patient quite naturally and without resorting to elaborate "Guest Relations" programs initiated by Health Care Administrators. Treatment is generally determined and implemented by the physician without discussion with the patient.

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# Medical Services to the Nomadic Reindeer Herders Bilibino District

The Native population for the Magadan Region consists of 14,000 Chukchi, Ukagiri, Eskimo, Evani, Chuhan. One of the major occupations in the rural areas of the Bilibino district is reindeer herding. Medical services are provided to these nomadic peoples through mobile health clinics. Dr. Larissa Abruytina, Chief of Mobile Medical Unit in Bilibino started the mobile clinic ten years ago. She grew up in a village where she attended school for eight years and then went to a boarding school for high school. She graduated from medical school in 1980.

On the tundra she visits approximately 1,000 Native people. These reindeer herders move around the region living in tents. The floor of the tent is the ground which is covered with moss, reindeer hide and fur to sleep on. The stove is an open fire. Reindeer meat and bread are the main course of food.

While working, the reindeer herders do not drink alcohol, but many of them have a problem with drinking when they visit a town.

The children work with their parents until they are sent away to school. Although they return each summer, the people feel that this is not enough time to teach them traditional values or culture and the ways of the people are being lost. The distance makes parental visitation almost impossible. As children grow older they do not want to return home because they prefer to live in town or take another occupation.

\*The mobile clinics include five doctors, a general clinician, gynecologists, stomatologist and a treatment therapist. They work out of a tent. The equipment consists of a crash cart, x-ray machine, bed and some instruments. The clinic travels to the herders and Native villages by helicopter or jeep.



Visit at reindeer herder camp.



Dr. Larissa Abruytina at the reindeer herder camp.



# Emergency Medical Services in Magadan/ Chukotka USSR Compared to Emergency Medical Services in Alaska USA

## ABSTRACT

EMS services, equipment and personnel were described as seen in Magadan. A specific comparison of injuries was made between Palmer, Alaska and Bilibino, USSR.

## INTRODUCTION

The regional EMS system in the Magadan/Chukotka Region of the Soviet Far East is organized according to a progressive hierarchy of services from small villages (Level 1) to Regional Referral Centers (Level 4) similar to the EMS system in Alaska. There are people with some special emergency medical training in most villages and towns, and doctors with clinics or hospitals in the larger communities. The larger towns and cities have government run ambulance services. This article combines observations from the large Level 4 Regional Center of Magadan City, the Level 3 cities of Pevek and Bilibino and the surrounding Level 2 and 1 communities.

## TRANSPORTATION

Helicopters or fixed wing aircraft are frequently used for air medical evacuations, either from small villages to the nearest hospital, or from small, local hospitals or polyclinics to referral centers. Like many parts of rural Alaska, these air medical services do not use dedicated aircraft. Instead, medical teams and portable equipment are placed on aircraft that are otherwise used to transport passengers and cargo. The air medical teams are under the supervision of the Magadan Ministry of Civil Aviation Control, which is a division of Aeroflot.

The standard for ambulance services is one ambulance for each 10,000 people. Ground ambulance services and air medical services are usually staffed with physicians plus a specially trained assistant, sometimes known as a "little doctor" (with about 3 1/2 years of training). Doctors might not be available in some of the smaller villages so ambulances in these communities could be staffed with nurses.

Some advanced life support capabilities are avail-

able, especially in Magadan and a few other major towns. There is one advanced cardiac ambulance in Magadan, equipped with a monitor/defibrillator, suction, oxygen, intubation supplies, I.V.'s, and cardiac drugs. This ambulance is purchased from Finland. There also are two specialized ambulances for pediatric emergencies staffed by pediatricians. There are special ambulances for people known to have infectious diseases and special ambulances for patients with psychiatric emergencies. Also, there is one ambulance for serious trauma cases which carries a set of pneumatic anti-shock trousers. Nitrous oxide is used for pain control on most ambulances. Wooden splints and traction splints are available in Magadan ambulances. Sometimes a regular ambulance is incorrectly dispatched when a special ambulance is needed.

Although most ambulances have some advanced life support capabilities, there doesn't appear to be much emphasis on spinal immobilization in the field, and there was no evidence of heavy rescue or extrication equipment. Sometimes fire services personnel assists with extrication (e.g. cutting doors off cars). There are five fire stations in the City of Magadan.

The quantity of calls tends to be much greater in the winter than in the summer because many people vacation in other parts of the Soviet Union during summer. Therefore, there are six or seven ambulance brigades for the City of Magadan in summer compared to 12 or 13 during winter. There does not appear to be any EMS standing orders or pre-hospital protocols. Ambulances are leased to local emergency medical services by the Magadan Regional Ministry of Health.

## EMERGENCY MEDICAL SERVICES COMMUNICATIONS AND DISPATCH

The emergency number called for an ambulance is 03, which is either answered at a central facility in Magadan or at a local hospital or clinic in smaller towns. The emergency number for police is 01 and 02 for fire. Emergency medical calls are routinely tape recorded in Magadan and several other smaller towns. There are ambulance to dispatch and ambulance to



hospital radio systems, typically using VHF low-band frequencies. Usually, the ambulance team called the EMS dispatch center which in turn calls the hospital to notify staff of the types of patients being transported. When the EMS dispatch number is busy, the ambulance crew can call the hospital directly. As in Alaska and several other rural states, there are many radio dead spots along rural highways and in remote wilderness areas. However, some reindeer herders and other groups in remote areas use short-wave radios.

In Magadan, a Level 4 community, an ambulance is usually dispatched within 4 minutes of receipt of a call with the goal to arrive at the scene within 15 minutes. Ambulances are dispatched from one location rather than from decentralized stations which are typical in the USA. Consequently, for cardiac arrest cases, very few patients are resuscitated in the field. The ambulance crew usually cannot get to the patient in time.

## REPORTING SYSTEMS

Ambulance report forms are completed for each run and one copy is kept at the Emergency Medical Service base station with another copy given to the doctor at the hospital.

The City of Magadan EMS also has two people assigned to tabulate EMS run statistics including types of calls. Whenever there is a negative patient outcome, a supervising doctor reviews the case. There also is a team of doctors for quality assurance review. While data is collected on injuries, analysis is limited to issues regarding volume of services. There is no money for prevention, therefore, the data is not analyzed for such purposes. In the case of death, an autopsy is done for quality control to determine if the correct diagnosis and treatment was provided.

## NON-EMERGENCY CALLS

A major difference between EMS in the Soviet Far East and EMS in Alaska is that ambulances in the Magadan/Chukotka region are used to transport doctors to home visits for routine medical diagnoses and treatment. This resembles physicians' home visits many years ago in the USA. Ambulances are also used to transport health care workers to homes for child immunizations, a service routinely performed by public health nurses in Alaska. Consequently, the City of Magadan Emergency Medical Service responds to over 50,000 calls per year compared to about 17,000 calls per year in Anchorage (including non-emergency inter-facility transports). If an emergency call comes in, an ambulance can be diverted from a routine call to the emergency.

## MEDICAL STAFFING

In the Soviet Far East, most nurses appear to have a less complex level of education than nurses in the USA and don't seem to have training in sophisticated advanced life support treatment. There does not appear to be medical training classes for physicians equivalent to Advanced Cardiac Life Support, Advanced Trauma Life Support, or Pediatric Advanced Life Support, although some of these skills are available in Magadan.

The City of Magadan Emergency Medical Service has a shortage of doctors and specially trained people, therefore, the emergency medical responders frequently are asked to work overtime for extra pay. Ambulance crews typically work 12 hours per day for two consecutive days and then have two days off. Sometimes they work 12 hours one day and then have the next day off. Hospital emergency services in Magadan are staffed 24 hours a day with traumatologists and other medical specialists. There is no burn unit in the Magadan/Chukotka region. The nearest major burn unit is at least 4,000 miles to the west.

## FIRST RESPONDERS

There are first responder teams in smaller communities, and first aid teams in factories and other high risk occupation sites. There are 39 first aid teams within the City of Magadan. Generally, emergency medical service responders in the USSR have not received vaccines for infectious diseases such as Hepatitis B, nor do they use universal precautions as recommended by the U. S. Public Health Service Centers for Disease Control. According to reports, doctors and other people specially trained for infectious disease ambulances have had Hepatitis B vaccinations and take other universal precautions. For emergency medical responders, some continuing medical education is provided on the job. Every three to five years emergency medical services' doctors attend a major medical center for four to five months of intensive refresher training. Emergency first aid information is sometimes presented to citizens via television. CPR and first aid training classes are also available.

## DISASTER PLANNING AND RESPONSE

During the site visit, there was no formal evidence of a mass casualty response plan. If there is a major plane crash at the Magadan airport, which is over 50 kilometers from the City of Magadan, up to 30 ambulances could be sent from surrounding areas, plus a few

helicopters with medical teams. In smaller towns, far fewer emergency medical resources would be available. There was no earthquake plan as the risk of a major earthquake is considered to be low by officials within the Magadan region. Although the Magadan/Chukotka region is north of the so-called ring of fire, which circles the Pacific Rim, a seismic activity map of the past 20 years from the U.S. Geological Survey confirmed recorded earthquakes in the Magadan area.

## RURAL EMS IN PEVEK, BILIBINO, AND OTHER SMALL TOWNS

Pevek is a coastal community of approximately 14,000 people on the Arctic Ocean. The small villages and communities surrounding Pevek bring the area population up to 34,000. Bilibino's population is 18,000, and with the surrounding area the population is at 29,000.

The ambulances are based at a clinic near the hospital. At least three ambulances serve the smaller cities. The ambulances look similar to old Volkswagen buses and the are staffed with either two nurses and a driver or two nurses, a physician, and a driver depending on the nature of the call.

The ambulances are minimally equipped with most of the equipment carried in kits taken from the hospital when crews are called out. These kits contain basic medical supplies, IV solutions and sets, oxygen, and medications. In the back of the ambulance there is a short squad bench on one side and an army-type stretcher suspended on the other. The vehicles carry wire ladder splints, wood splints, and plastic-type splints. They are painted military drab green, have a red cross with the word "ambulance" stenciled on the sides and a blue light on top. Each ambulance has a twelve lead EKG that is battery powered. Supplies include a separate battery-powered defibrillator roughly the size of an old Lifepack 4 with a large paddle to be placed under the patient and a paddle for the sternum for an anterior-posterior approach to defibrillation. Saline pads are used with the defibrillator. The hospitals typically have the capability to receive EKG's by telemetry over the telephone from clinics in smaller towns in the area.

There is no evidence of extrication equipment, pneumatic anti-shock garments, traction splints or spinal immobilization equipment, which includes cervical collars. The Pevek ambulance service responds to about 1,000 calls per year including many routine non-emergency medical calls.

## REFERRAL PATTERNS

Referrals are made to local and regional hospitals according to the severity of the patient's condition. For example, the Pevek hospital staff reported that burn patients, skin graft patients, and cosmetic surgery patients are referred to the hospital in Gorki, about 4,500 miles to the west. Cardiac pacemaker implantation and bypass surgeries are only performed in Moscow, Kiev, or Leningrad. Magadan Regional Hospital receives all other patient referrals that cannot be attended to in Pevek or other smaller regional centers. Loss of hearing or other senses, respiratory diseases, silicosis, cancers and heart disease are the major medical problems in this area.

The clinics serve as triage stations where individuals are initially treated and then either returned to their jobs or transported to an emergency clinic or hospital.

The staff has first aid and CPR training. In Pevek, there is an eight bed physical therapy room with a power plant for electric current used for ultrasound, infrared heat, high radio frequency, and high intensity light therapy. Electric current is used in a sort of electrophoresis process: to apply medication locally, they first soaked gauze in medication, placed it on the intended spot and passed a mild current through it. This process is also used to treat some gum diseases.



Emergency dispatcher's desk in Pevek.

## COMMON INJURIES

In Bilibino, burns, frostbite and fractures are the most common EMS calls. Most of the trauma calls are reported to be home injuries, followed by motor vehicle accidents and occupational injuries. Burns from hot water scalds and hot fat in fryers were most common to children.

## INJURIES IN BILIBINO

International Classification of Diseases (ICD) Coding is provided in the medical records, but the medical professionals don't recognize it by this nomenclature. Looking at the nature of injury codes for 1989, there were a total of 893 traumas or poisonings of adults (ICD-9 CM Codes 800-999) and 286 traumas or poisonings involving children less than 14 years of age. These statistics are compared with those of the hospital in Palmer, Alaska. (see Table 1 below).



**INJURIES IN BILIBINO AND PALMER, ALASKA HOSPITAL EMERGENCY FACILITIES, 1989**

ICD9 CODE	DESCRIPTION	ADULTS		CHILDREN (<14 YRS)	
		Bilibino	Alaska	Bilibino	Alaska
800-899	Traumas/Poisonings	893	138	286	23
800-809	Skull/Spinal Cord Trunk				
	Fractures	21	26	2	1
810-819	Upper Limb Fractures	75	6	14	2
820-829	Lower Limb Fractures	38	29	14	5
830-848	Joint	112	8	15	0
850-854	Head	40	12	20	6
860-869	Internal Abdominal				
	Chest, Pelvis	0	10	0	1
939	Wounds	504	40	161	6
957	Burns	75	7	48	2
960-995	Poisoning	28	NA	12	NA

Source: Alaska Trauma Registry Statistics for Valley Hospital (Palmer, Alaska) Emergency Room Admissions.

## RECOMMENDATIONS

The Emergency Medical Services Group made the following recommendations for improving the EMS system in the Magadan/Chukotka Region.

1) Develop a cadre of instructors in Advanced Cardiac Life Support, Advanced Trauma Life Support, and Pediatric Advanced Life Support. This could be done by sending physicians to training programs in Alaska with interpreters who understand medical terminology for those who don't speak fluent English.

2) Upgrade medical equipment and supplies for all ambulance services, air medical teams, and hospitals. There is a great need for disposable syringes and other disposable medical supplies. There also is a need for spinal immobilization equipment and traction splints.

3) Train and equip fire fighters at the five fire stations within the City of Magadan with automated external defibrillators so response times to cardiac arrest patients could be reduced. This would result in a two-tiered response system, similar to systems in Seattle, Washington or Anchorage, Alaska where fire fighter defibrillator technicians respond to the scene of a cardiac arrest, followed within a few minutes by an advanced cardiac life support trained and equipped ambulance team.

4) Train a cadre of physicians and surgeons from Magadan in burn care and develop a small burn unit at the Magadan Regional Hospital.

5) Provide air medical training for air medical

crews. A cadre of instructors could be trained by aeromedical instructors in Alaska.

6) Develop a multiple casualty disaster response plan for the Magadan/Chukotka Region using the Incident Command model for disaster response.

7) Collect hospital data in the Magadan/Chukotka region, comparable to data items in the Alaska Trauma Register, to enable comparative studies of causes, severity, patient care, and outcomes of trauma patients between the Magadan/Chukotka Region and Alaska.

8) Make plans to utilize mobile satellite cellular telephone communications to fill in gaps for EMS communications systems in remote, rural areas when this new technology becomes available worldwide (probably in 1996).

9) Study the epidemiology of injuries and develop and evaluate injury prevention programs. Initial efforts could focus on mandatory use of seatbelts in motor vehicles, pedestrian safety, and prevention of scald burns by turning down the temperature of hot water heaters.

10) Continue with a direct orthopedic clinical exchange between Alaska and Magadan should continue. Alaska orthopedic physicians could continue to learn about the Ilizarov techniques from the Soviets. In exchange, Alaskans could offer courses in advanced techniques such as arthroscopy, total joint replacement, and internal fixation. There is a lack of intramedullary fixation devices for internal fixation to fractures of the femur such as we use in Alaska.



# MENTAL HEALTH DELIVERY IN THE SOVIET FAR EAST

## ABSTRACT

Mental Health problems and services in Magadan/Chukotka region were compared with those in Alaska. Both locations have similar geographic and climatic conditions, but have been separated from each other until recently with services developing along different tracks. Recommendations including opportunities for future research are briefly described.

## INTRODUCTION

The Alaska delegation, on the basis of this brief visit, was able to make only a preliminary survey of the nature and extent of mental health problems in the Soviet Far East, and the range of services available. There appears to be major translation problems, making conclusions difficult. These problems result from the specialized technical vocabulary used in mental health, which is difficult for translators not used to translating specific types of technical words. Diagnostic terms, in some cases, are different from those used in Alaska, and DSMIII-R was not used.

There appears to be problems stemming from differences in underlying philosophy, with the Soviet system emphasizing individual conformation to the collective social system. Therefore, it was difficult to get answers about treatment approaches based on our concepts of individual autonomy.

## MENTAL HEALTH PROBLEMS IN THE MAGADAN/CHUKOTKA REGION

Planning documents and epidemiological information are not available in translated form for review, so precise comparisons with Alaska are not possible. Much of the population appeared to be fairly recently moved to the region from other parts of the Soviet Union, often in support of economic development activities such as development of natural resources (mining, etc.) There appears to be heavy social drinking, but it is not clear what the rates of problem drinking are. It appears likely that some of the same problems we encounter in Alaska are present: problems of recent immigrants away from family support systems, alcohol related problems, and difficulties of adjustment to isolated arctic and subarctic conditions.

While specific data on the Magadan/Chukotka Region was not available, the following USSR national data is of interest:

	<u>1985</u>
All patients (excluding alcoholic psychoses, alcoholism, drug and toxic-substance addiction)	1,923
Including:	
Schizophrenia	355
Other psychoses and types of dementia	310
Mental disorders of a nonpsychotic nature	747
Mental retardation	511

These tables indicate relatively low rates of mental disorders coming to official attention compared to reported US or Alaska rates, but with trends for some reported increases between 1970 and 1985.

Observations in the psychiatric facilities the delegation visited are difficult to interpret. Only a few facilities were seen, and it was clear there are special facilities in larger cities to handle such forensic cases.

## SERVICES

A variety of treatments appear to be used in the Soviet Far East that are not commonly used in Alaska. A book on "Therapy Methods in Psychiatry" being used in Magadan, for example, has chapters on tranquilizers, anti-depressants, lithium, etc., which are familiar, but also chapters on noo-tropes and cerebro-protectors, hormonal treatments, insulin coma treatment, atropine coma treatment, pyrogenetic therapy, sleep deprivation treatment, narcotic psychotherapy, labor therapy, etc. Because of the differences in diagnostic terms, with use of terms like "sluggish schizophrenia", "oneiroid catatonia", "hypo-optimal" (con-

Table 2.

**Number of Patients with Established First-Time Diagnosis of Mental Disorders Recorded by USSR Psycho-neurological Institutions (per 100,000) (3)**

	<u>1970</u>	<u>1980</u>	<u>1985</u>
All patients (excluding alcoholic psychoses, alcoholism, drug and toxic-substance addiction)	146	182	206
Including:			
Schizophrenia	15	17	19
Other psychoses and types of dementia	27	31	30
Mental disorders of a nonpsychotic nature	74	98	116

stitutionally depressive), and "hyperoptimal" (constitutionally excited) psychopathy, etc., it is not clear exactly what is being treated and how the treatments are given differently for different conditions.

Some of the medications in use are familiar. For example, Haldol and Librium are being used in doses similar to those used in Alaska. Some long acting injectable anti-psychotics are available: one called Tizertsin, manufactured in Budapest, is a phenothiazine derivative. The package drug inserts from the drugs in use are being translated into English to compare with our drugs. A long-acting Antabuse implant named Esperal from France is also available.

Besides these treatments, there appears to be considerable interest in Oriental medicine, with talk of setting up an Eastern Medicine Institute in collaboration with North Koreans. Acupuncture appears to be in common use, including use for conditions such as depression and for sexual potency problems.

There is also extensive use of hypnotists felt to be quite successful in treating alcoholism. Some hypnotists have television shows which appear to have large audiences. Hypnotic suggestions are given to the television viewers, and letters are read from people who have been hypnotized while watching the show and claim to have been "cured."

There also appears to be herbal treatments of various types in use - Siberian ginseng derivatives, etc.

## SERVICES FOR CHILDREN

There is an interesting system of care for children, involving nurseries, kindergartens, Pioneer Centers for older children and teenagers, childrens' polyclinics, etc.

Slides showing fetal alcohol syndrome were recog-

nized, with local professionals stating this was a problem, and is termed "alcoholic idiocy". It is not clear what sort of treatment approach is being taken.

Literature reviewed on the work done in schools talks about a role for the teacher in organizing "childrens' collectives", using peer group pressure to promote "positive social traits" such as industry, diligence, sharing.

Facilities observed seemed to be well-equipped and maintained. The activities in one Pioneer Center for teenagers that was visited in Anadyr was

most impressive, with computers, a swimming pool, extensive arts and crafts activities, some Native teachers, guest speakers on inspirational topics, a student cafe, etc.

A number of psychological assessment tools are in use in the kindergartens and in the childrens' polyclinics. These include some beautifully done picture cards that appeared to be hand-drawn and hand-lacquered. It was not possible to observe exactly how these were used, so as to form conclusions with how they compared with tests in use in Alaska. It is not clear what special treatments or facilities might be available for school counseling or for handling disturbed or learning disabled children. Reference material provided is being translated.

## FACILITIES

As in Alaska, there is a system with smaller facilities in remote settlements, general care in regional centers, and a referral system to specialized urban facilities for difficult cases.

There appears to be more of a facility-based approach where individuals can be admitted to a "psychochronic" facility for lengthy periods of time, without the pressures we have in Alaska for short-term inpatient stays, utilization review, etc. There appears to be less in the way of intermediate care of half-way house types of "step-down" facilities. Physicians appear to have regular time scheduled each week to make home visits. For patients close to a hospital, these visits seem to be used rather than relying on scheduled visits to outpatient clinics. Those living in outlying areas get less frequent visits from the psychiatrists. There does not appear to be much emphasis on family treatment,



so questions received replies of "Why would you treat the family if the patient was sick?" However, there was mention of an incentive system in which families who took chronic mentally ill relatives into their home would receive a higher priority for scarce apartments. There seems to be a follow-up system after discharge, with different categories of disability, and periodic reassessments.

## **PREVENTION SERVICES**

The children's system, described above, was built up after the Russian Revolution. The original intent was to help indoctrinate children in principles of Leninism. Programs in industrial complexes were also developed, because of the value placed on maintaining an active and healthy work force to maintain industrial production.

Both of these efforts, although originally having some political purposes, have survived, and appear today to be less political, and worthy of study. Our programs such as Headstart for pre-school intervention, activities programs for youth, and employee assistance programs, seem less well developed and there could be something to learn from the Soviet system.

## **MENTAL HEALTH PROBLEMS AND SERVICES TO INDIGENOUS PEOPLES**

There are a number of different indigenous groups - Chukchis, Tungus, etc. As in Alaska, there has been stress connected with culture contact as non-Native people have immigrated. Traditional activities like reindeer herding were "collectivized", and there is concern that traditions and language are being lost. It is not clear if there are differentially higher rates of mental health problems in the Native versus non-Native populations.

Through conversations with the local "Indigenous People's Association", which has recently formed, it was learned that Native healers are still present, basically working underground. The Native individuals that spoke were hesitant to say much about this.

There appears to be growing awareness among both the Native and the non-Native groups about the value of self-determination and local control, and in the advantages of programs that recognize and respond to culture-specific issues. There is interest in how the Native corporations in Alaska are functioning, and how the Alaska Native Claims Settlement Act works. There appears to be a strong sense of identity in the Native people the delegation visited, and a strong feeling of kinship with Alaska Natives.

## **PROFESSIONAL CONCERNS**

Many of the professionals of the Soviet Far East that the Mental Health Team met expressed disillusionment with the existing system and want more of a "private enterprise" system. Currently, doctors, nurses, and other health care providers have relatively low income and status compared to their counterparts in Alaska, and are frustrated with inadequate equipment, lack of medications, lack of books and other training materials.

Discussions of what "private enterprise" might entail, however, revealed that many people have a very limited concept of our system. The idea that one might earn different amounts of money, depending on the type of practice one set up, rather than getting a fixed salary, and even the very basic idea about individuals receiving loans, having personal ownership of certain kinds of property and equipment, paying interest, etc., seemed difficult to explain.

Because much of the "infra-structure", such as medical facilities, communication systems, computer systems, supplies are not competitive with standards elsewhere, it appears that any real efforts at privatization will require substantial investments of time, resources, and education over a considerable period of time.

There were at least some Native people observed in senior management positions and working as health care professionals. Statistics are not available as to how common this is, or how it compares with Alaska.

## **RECOMMENDATIONS AND OPPORTUNITIES FOR RESEARCH**

1. Enhance communications between Alaska and Magadan/Chukotka Mental Health professionals, as well as communications between appropriate Native organizations.

This could include professional exchange visits, sharing of educational materials, conferences, visiting scholars, joint projects, translation of key references. Because of translation problems, relative lack of written materials and medical books in Magadan/Chukotka, and the costs of travel, consideration should be given to exchange of videos describing diagnostic methods, treatment techniques, controversial topics, work of leaders in particular fields, etc. A preliminary experiment to test the feasibility of this approach is currently underway.

Exchange visits between Native organizations, elders, and traditional practitioners are of considerable interest.



There are many interesting areas that can be explored, relating to impacts of different types of culture contact, ways to carry out economic and natural resource development with least harm to indigenous groups, impacts of changes in subsistence lifestyle, descriptions of traditional healing practices, issues of self-determination, etc.

2. Carefully describe and catalog basic diagnostic methods and treatment methods.

Preliminary efforts along these lines, including obtaining Russian-English Medical Dictionaries, translating diagnostic symptom checklists into Russian, translating videos that have been exchanged describing certain diagnostic methods and treatments in more detail, are already starting. Follow-up exchange visits will be needed to look at specific diagnostic methods and treatments, which may have potential in Alaska.

Specialized epidemiology studies would be of interest at a later time. Because of translation problems there is a real danger of comparing "apples and oranges". Using an abbreviated DSMIII-R type symptom checklist (Diagnostic Interview Schedule), or other Western style assessment methods, and translating them into Russian, has proven to be difficult. Back-translation by Russian physicians shows a considerable amount gets lost in translation. It appears we should start by taking certain indicator conditions where there might be more likelihood of reliability of diagnosis, and then simplified assessment tools should be used with local people trained to all use them consistently, with appropriate translations. Once a group of patients is identified where there is some agreement as to what the diagnosis is according to our diagnostic system, we could then see how the Russians would diagnose that same condition, and what treatments they would give. Videos here to show what they actually do would be valuable, especially for activities taking place in remote sites.

3. Basic equipment, supplies, medications, training materials that will help the Magadan/Chukotka people should be provided.

Groups like the American Psychiatric Association have been asking for donations of used equipment,

books, audio-cassettes, videos, etc., to use with Eastern European countries such as Bulgaria, Hungary, Poland. Similar practical help could be arranged by Alaskans and National Organizations to help Magadan/Chukotka. Preliminary contacts with organizations such as drug companies, as well as with groups that might have needed technical expertise such as World Health Organization, are being made.

4. Give special attention to finding out more information about Magadan/Chukotka childrens' programs and how the feldsher system works with respect to mental health.

Alaskan public mental health programs lately have been increasing programs targeted at children and youth: high-risk pregnancy projects to decrease fetal alcohol syndrome, expanded child-at-risk programs to

deal with child abuse and child sexual abuse, Headstart mental health screening programs, youth substance abuse programs, etc. There has also been interest in developing additional village-based mental health services including village-based counselors.

Magadan/Chukotka appeared to have some strong programs for children and youth, and a well-developed feldsher system to provide care in urban as

well as remote rural sites. Further description of these programs as far as mental health aspects is needed, to see if possible collaboration on joint projects might be warranted. More description of the psychological tests used to assess children in Magadan/Chukotka is also of interest, since some of these appear they could be useful to paraprofessionals in screening for childrens' mental disorders in rural areas where professionals are not available.



Child at reindeer herder camp.

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# Drug and Alcohol Services in Pevek

## ABSTRACT

Alcohol was the identified drug of choice for abuse in the Soviet Far East because of its availability over other drugs. Women were particularly noted as having a greater alcohol problem and treatments were described from a mandatory process perspective.

Pevek, located in the northeastern part of the Magadan Region of the Soviet Union, is on an inlet of the East Siberian Sea. The community was established after World War II and the discovery of a variety of minerals in the surrounding area. The indigenous people of the Pevek area are Chukchis. With a current population of 14,000, the community has a disproportionate number of young adults who came for work. The financial incentives available in an isolated community of a harsh climate are attractive to residents of the surrounding area.

Due to the isolation of Pevek, a wide variety of drug types are not available for potential abuse. Therefore, alcohol was the major drug studied. Other drug use is minimal because of the area's isolation and the high drug costs.

Chukchis and women were specifically mentioned as being at greater risk of becoming alcoholics. It was thought that a greater problem with alcoholism existed in the Chukchi population. They tend to become alcoholics more quickly than the white population. This tendency is thought to be caused by the lack of an enzyme or chemical from the liver which results in an abnormal alcohol metabolism rate; thus the increase in alcoholism. It was also thought that women tend to become alcoholics more quickly than men and that the female alcoholic rate is increasing faster than the male rate.

The drug and alcohol clinic is located next to the hospital. It has a total of 30 beds. Twenty are reserved for the treatment of drug and alcohol abuse with the remaining ten beds for patients with psychiatric needs. Few patients are considered to have a dual diagnosis. The clinic is staffed with two physicians and seven nurses.

## MANDATORY TREATMENT

Mandatory entry into treatment for drug and alcohol abuse is imposed in several situations:

1. Family request: If the family thinks a family

member is alcoholic and the person refuses to voluntarily seek treatment, the family can write to the police department requesting intervention. The police then take the person to the clinic for an evaluation by the physician. If the physician confirms that the person is alcoholic, a petition is filed with the low court seeking an order for treatment. The court then requires mandatory treatment.

2. Employer request: If an employer can substantiate that an employee is missing work because of drug or alcohol abuse, failing to work to their potential, or is a hazard to safety, the employer can require that the employee seek treatment before returning to work. The police are then notified, an assessment completed and the court can require mandatory treatment.

3. Public inebriates: The first time someone is picked up by the police for public intoxication they are taken to jail, kept overnight, and their employer notified by the police department. The second time the same person is picked up, his employer is notified, a referral is made to the drug and alcohol clinic and he/she is encouraged to seek professional help. A fine is also imposed. At the third offense, the person is required to receive professional help and admitted to the clinic.

4. Driving while intoxicated: If someone is stopped by the police and there is ANY level of alcohol on their breath they are automatically arrested and taken to the sobering-up station where they receive a cold shower, no food, and may be required to obtain treatment. Level of alcohol is determined by smelling the breath. Anyone arrested for driving while intoxicated can lose their driver's license for a minimum of one year with a mandatory loss of license for life imposed on repeat offenders.

## TREATMENT TECHNIQUES

The approach for treatment of drug and alcohol abuse is considered to be strictly from a medical problem and not a social problem perspective. A rigid system of treatment has been developed. Upon being admitted to the narcology (drug and alcohol) treatment program, a four-step treatment plan is established.



1. **Cleansing the body:** A solution of glucose is administered along with medications designed to clean out the bowels and reduce the level of alcohol poisoning in the system. This step takes 10 to 15 days and is done at the narcology clinic, or the procedure is performed in the hospital if any occasional complications occur.

2. **Breaking the habit:** Through individual counseling and a variety of medications, the physician attempts to break the habitual drinking patterns. Services are typically provided at the clinic. Ninety percent of the patients deny they have a problem. This also is the time when attempts are made to break through the denial. Historical information is obtained from the family and from people at the workplace. This step usually takes about a month but can be longer, depending on the severity of the problem.

3. **Aversion therapy:** During this stage, the physician attempts to make the patients afraid to drink. This is accomplished by two techniques: hypnosis and medications to make the patient regurgitate. Some of the medications are taken orally and others are injected under the skin. Following the administration of the medication the patient is given a glass of vodka and required to drink it. This stage usually lasts ten days and is completed in the clinic or occasionally in the hospital. Following this stage of the treatment, the patient is released but required to have periodic outpatient follow-up treatment.

4. **Aftercare:** The narcologist continues to see the patient as an outpatient for an indefinite period of time. Immediately after being released from treatment, the recovering alcoholic returns every day for ten days. After a period of time this is reduced to once a month. No formal Alcoholics Anonymous group was found in this part of the Soviet Union, although informal counseling groups were found in most places of employment.

A special medicine made up of five different grasses and herbs was discussed. This potion is supposed to be so successful that the consumption of one dose (one cup) would make the patient give up alcohol for at least a year. However, the government had not approved this medication for use although it has been written up in a medical journal from the Baikal Region. In order to be considered "cured", a patient must remain clean for five years. According to the physician, the Pevek Clinic had a success rate of 24 percent.

Children are not treated in the narcology clinics and no special pediatric drug clinics or treatment programs are available in this part of the Soviet Union. If

it is determined that a child has a drug or alcohol problem, he/she is treated by a pediatrician.

Treatment of pregnant women is considered to be a very difficult problem. Although they are admitted to the narcology clinic, the narcologist confers with the gynecologist and efforts are made to adjust medications to prevent problems with the fetus or pregnancy. Babies born addicted to drugs is a growing problem in the Soviet Union, although there have been few such cases in Pevek. Ninety percent of the children in children's houses were born to addicted mothers. Many are retarded or have other problems related to what the USA would consider to be fetal alcohol syndrome. Little rehabilitation is attempted and such children usually remained institutionalized during their entire lives.

Children of alcoholics are usually placed with relatives while their parents are in treatment. If no relatives or willing neighbors are available, the children are placed in childcare at the hospital or could be sent temporarily to the nearest children's home (Magadan). If the mother's treatment program is considered successful, she may regain custody of her children by petitioning the low court.

## PREVENTION TECHNIQUES

The Central Government of the Soviet Union recognizes that drug and alcohol abuse is a serious problem in their country. The government is trying to decrease the consumption of alcohol by limiting the amount that is available with a rationing system. Two bottles of hard liquor per person per month is the standard amount currently permitted. Additionally, due to the high percentage of alcohol content in quality Soviet vodka, the government is trying to limit its consumption and replace it with alcohol of a lower content. No beer rationing seems to be in place.

Programs to educate young people about drugs, alcohol, AIDS, and birth control are available in the schools and posters are frequently seen in the schools, factories, and on the outside of buildings. Physicians warned pregnant women about the risks associated with alcohol consumption while pregnant. However, according to the narcologist in Pevek, these techniques do not seem to be very successful. Social drinking appears to be the norm for everyone that we met in Pevek and it was difficult to determine if people drank that much on a regular basis or because they had special guests from the United States. Alcohol was available at virtually every meal, at the work place, and with evening social activities.



# Pharmacy Services in the Soviet Far East

## ABSTRACT

Briefly describes the drug distribution system in the Soviet Far East. There was a lack of pharmacy services within Soviet hospitals.

## COMPARATIVE SERVICES

At first glance, the physical appearance of a pharmacy in the Soviet Far East looks very much like one seen in the United States, but closer observation reveals many differences. This article briefly describes the drug distribution system within typical Soviet Far Eastern cities of Bilibino and Anadyr.

In Bilibino there is one central pharmacy or "optieca" that employs approximately 50 people. This central pharmacy serves as drug warehouse, IV manufacturer, retail pharmacy and drug distributor for the region. The pharmacy services one large local hospital of 275 beds, six smaller hospitals having ten to 20 beds each, and six smaller pharmacies in towns outside of Bilibino.

Drug supplies are ordered and shipped to the central Bilibino pharmacy every three months from the city of Magadan. The large storage areas for drugs are similar to those in the USA. They are monitored for temperature and humidity, have alarm systems and numerous locks. Narcotics are locked in safes within these storage areas. Occasionally, between the regular shipments, the local pharmacy runs out of a medication. The Bilibino pharmacy manufactures all the IV fluids used in this region. They make between 150 and 200 IV solutions each day and manufacture them in reusable glass bottles.

The central pharmacy is also the source for all prescription and nonprescription medications for patients in Bilibino. The system is similar to the retail system in the USA. After seeing a physician, a patient may be given a prescription written on a special pad having the hospital stamp. The patient is then responsible for having the prescription filled at the pharmacy and paying for it at that time. Patients identified within certain categories receive free medications. Some categorical examples are diabetes, cancer, tuberculosis, asthma, all children under the age of three years,

veterans of WWII, the Afghanistan War, and victims of the Chernobyl nuclear accident. Approximately 30 percent of all prescriptions are not available in pre-packaged form and therefore are compounded.

Unlike the USA drug distribution system, there is a lack of pharmacy services within Soviet hospitals. A hospital with 275 beds has one pharmacist. This pharmacist has nothing to do with drug delivery and is primarily responsible for gathering drug information for the physicians and works out of the pharmacy in town. Gathering drug information is a time consuming

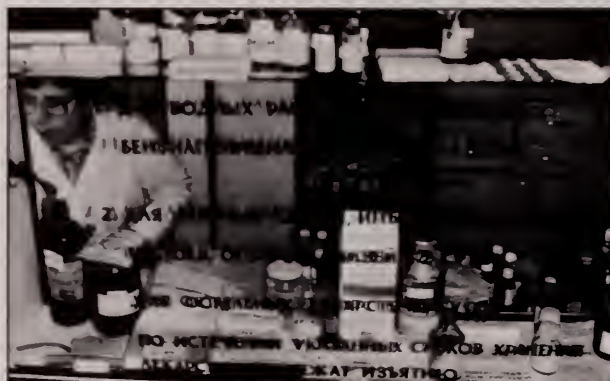
task due to the lack of computers and drug information references. It is made more difficult by the fact that drugs used may come from countries all over the world. Each department within the hospital has storage for their own drug supplies. A nurse is typically in charge of the drug cabinet, distribution of medications to patients and responsible for con-

tacting the central pharmacy in town when supplies need to be replaced.

## EDUCATION

A pharmacist's education in Russia is similar to the USA. They have a five year degree with heavy concentration in the general sciences and specialized classes in pharmacology, pharmacognosy and biochemistry. Their last year of school is spent in hospital-based clinical training. They also have the choice of electives and can specialize in an area. Pharmacists, like physicians, are given opportunities for continued education every five years. These opportunities can be very extensive, ranging from weeks to two to three months of training. As in medicine in Russia, the pharmacy staff is predominately female.

In Russia there is another level of training not seen in the USA. A mid-level pharmacist worked in the compounding area, under the supervision of a pharmacist. These mid-level professionals have two to three years of college. Assistants who help with compounding usually have on-the-job training only.



Pharmacy in Bilibino

# Dental Health Services in Magadan/ Chukotka, USSR

## ABSTRACT

Dental care in the Soviet Far East was compared to dental care in Alaska. Observations and data supported differences in dental services between the two areas. Dental prevention lacked fluoridated water and services were provided with outdated equipment from U. S. standards.

The Dental Health Group focused its observations on five topic areas: administration, the delivery of dental services, health promotion and disease prevention, environmental and safety standards and research. The information presented in this report represents a compilation of the results of the interviews and observations of the members of the Dental Health Group.

## ADMINISTRATION

Soviet dentists are called stomatologists. They are usually trained in central Russia. The closest training institution to Magadan is in Khabarovsk. Stomatologists are also trained in Krasnojarsk, Chita, and Irkutsk. Students are recruited in secondary schools. The decision is voluntary and made by the student with input from their parents. In the university, stomatology is considered a prestigious profession. In the opinion of the Alaska dentists it appeared that the stomatologists are on a par with physicians. However, throughout the Soviet Union, it does not appear to be perceived in the same way. Stomatology training requires five years in addition to a one to three year internship depending on the "specialty" in which the individual would be working. Upon completion of the training, the stomatologist is professionally certified and qualified to practice anywhere within the Soviet Union. No licensure is required to practice within the various provinces within the Soviet Union. Dental assistants are trained in Magadan as well as numerous other locations. The Soviet dental system does not have a dental hygiene specialty.

To become a professor in a Soviet dental school, a stomatologist must have worked a minimum of three years before applying to become an assistant. Research and two theses are completed and submitted to a "board of peers" before application may be made to

become an associate and then a professor in a specialty. If the stomatologist is an exceptional student, the three year work requirement may be waived. Continuing education is available to the stomatologists at approximate five-year intervals.

The pay scale for stomatologists at the 1990 "Official" exchange rate was seven rubles = \$1 US.

	Per Month
Stomatologist (5 yr training/+ 1 yr internship)	
3rd Level (no experience)	160 rubles
2nd Level (5 years work + training)	175 rubles
1st Level (8 years work + training)	190 rubles
(after many years)	215 rubles
Chief position	40 rubles extra
Stomatologist Assistant (2 years training)	110 rubles

In the Far East region of the Soviet Union the salaries are up to three times greater than the rest of the country. There are also better opportunities for food and housing in this region. Longer vacation time (45-60 days) and retirement that is 5 years earlier are incentives to attract stomatologists to live and work in the Magadan region. When compared to other occupations in the Soviet Union, the salary of stomatologists ranks low. The first Congress of Stomatologists was held in the Soviet Union in 1920s. The one dental journal, Stomatology, is published six times a year.



Demonstration of dental procedure.



## EXTENT OF ORAL HEALTH PROBLEMS

There were unofficial statistics given to the Alaska dentists. Of the 44,000 children living in Magadan, 95 percent of the children have dental caries. Fifty-six percent of these children needed orthodontic treatment. There are resources to treat only 50 percent of these children. It was also reported that there are 4.6 dentists per 10,000 people in the USSR, while there are 5.6 dentists per 10,000 people in Magadan.

Other information for the Magadan Region for the years 1987-88 follows. This information was contained in a brochure with no explanation of how it was obtained. (Ranges for the years are given.)

### Average number of dental visits per person/year

All	1.6 - 1.8
Urban	1.7 - 2.1
Rural	0.9 - 1.3

Percent of the population who see a stomatologist/year: 37.3 - 42.9

### Average number of visits per stomatologist/year

All	3,515 - 4,198
Urban	3,611 - 4,685
Rural	2,200 - 3,231

The percent of teeth which had complicated caries compared to the number of filled teeth: 16.6 - 23.7.

The percent of teeth which had been extracted due to periodontitis compared to total extractions: 3.0 - 16.3.

The percent of people that had completed dental treatment: 68.8 - 79.6.

## FINANCE

Restorative dental care under the Soviet system is available to everyone at no cost. People often wait for

long periods of time to get into the system. Once treatment has been initiated the stomatologist makes most decisions on the type of care to be given. Little information was obtained on the ability of dentists to work privately, charging the patient directly. It is reported this is possible, but the stomatologists interviewed did not volunteer information about this type of practice.

Itinerant dental care is provided to people living in remote areas of the region such as reindeer herders. Tent camps are set up with completely stocked dental operatories and medical facilities. The gold mining cooperative in Magadan has a truck which is equipped with a dental operatory and living quarters for the stomatologist to travel to remote mining operations. This cooperative also has the only biomedical equipment repairman in the Magadan region.

The administration of the Magadan region dental program is very similar to the Alaska Area Native Health Service. There are 233 dentists working in the Magadan region which compares to 380 dentists working in private practice in Alaska.

One hundred-ten dentists worked in the city of Magadan compared to 182 dentists in Anchorage. Approximately 80 percent of the Soviet stomatologists are women. Seventy-five of these dentists worked in the Magadan Polyclinic. This large clinic provides comprehensive dental care to approximately 300 people per day. The Magadan Children's Polyclinic employs 19 dentists and 16 dental assistants. This clinic provides therapeutic (restorative), functional orthopedic, surgical and preventive dental services to 120 children per day in the winter and 70 children per day in the summer. The remaining dentists in Magadan work in several cooperative dental clinics. These cooperative clinics are for employees of industries such as gold mining, fishing and the power and light association. There are also dental operatories in each "kindergarten" which are for children ages two to seven years. The Soviet kindergarten could be compared to Alaska Head Start, pre-school, day-care programs and Montessori schools combined.

In Pevek, there is one main dental clinic with four operatories adjacent to the hospital. This clinic has six stomatologists and serves Pevek and surrounding settlements. The hospital has one dental operatory as well as a surgical operatory adjacent to the general surgery room. Every mining town and village in the Pevek area also has a dental operatory. These operatories are used by the Pevek dentists on itinerant visits.

There are ten stomatologists in the Anadyr district which included an orthodontist, pedodontist, oral surgeon and two laboratory technicians who provided services to approximately 18,000 people. This district compares to the Bethel region of Alaska which has 12



Dental staff at Anadyr.



dentists providing care to approximately 18,000 people.

The Chukotka Region is one of several regions within the Magadan area. The Anadyr dental clinic is located in a five story "flat" adjacent to the hospital. The four dental operatories are located on the first floor with two surgical operatories across the hall. There is also a separate pediatric clinic which treats children. The average patient load is reported to be 10-20 patients per day. Emergency patients, which comprise one-half the daily work-load, are seen primarily for extractions or root canal therapy. The broken appointment rate for this clinic is 40 percent which compares to the 25 to 50 percent rates in Alaska Regional Health Corporation dental programs.

The chief stomatologist in the Bilibino district attended school in Moscow but lived most of her life in the Chukotka area. The Bilibino clinic is located on the first floor of a multi-story building in the vicinity of the hospital, polyclinic and emergency clinic. The clinic was first used about one year ago. There are three general operatories, one surgical operatory and several other operatories used for prosthodontics. There are also several rooms used for various dental laboratory procedures.

The Bilibino district has ten stomatologists, eight dentists and three prosthodontist. The dentists do restorations and some extractions, usually in school dental clinics. Four stomatologists and four dentists are either stationed in or travel to the "tundra," or surrounding settlements. Most of the dental treatment observed were emergency, oral surgery and endodontics. Patients are referred to Magadan for restorations of gold crowns.

## DELIVERY OF SERVICES

Dental equipment in the Magadan region is similar to U. S. equipment of 30 to 40 years ago. Most of the equipment was manufactured in the Soviet Union, Czechoslovakia and Bulgaria with a few newer units from East Germany. Suction was poor and usually replaced by cotton gauze, air bulbs and cuspidors. Belt-driven, slow-speed handpieces are used much of the time. Dental burs and instruments, in general, are reused many times due to their scarcity. Local anesthesia (primarily Novocaine and Lidocaine) is used only for oral surgery and then injected from glass syringes with 18 gauge reusable needles. Most patients were noticeably apprehensive during the administration of anesthesia. Radiographs are taken on an infrequent basis.

The stomatologists usually provide care unassisted while seated in front of the patient. The dental assistant duties appear to involve seating the patient and retrieving and sterilizing instruments. Dental records

are usually kept in a filing area with patients picking them up when they arrive for treatment. The chart filing system is by street name rather than the patient's family name. The record is a small book filled with many hand-written pages. Each stomatologist records treatment procedures as they complete treatment. There was no tooth charting system used in the clinics visited. Prescription orders are written in a manner similar to USA practice. Computers are not used in any of the clinics visited. However, it was mentioned that the record system of the Magadan Polyclinic is scheduled to become computerized next year.



Dental hygiene poster.

Silver amalgam is used in limited quantities due to its unavailability, usually for small restorations in children. No amalgam is available in Bilibino. A temporary cement, often used in conjunction with arsenic-based medicaments, is used for the majority of the restorations and root canal therapy. Many types of medicaments are used to clean and medicate tooth preparations. These medicaments are manufactured in Hungary, Czechoslovakia, Bulgaria, Poland and the Soviet Union.

The primary level of care appeared to be emergency treatment. Most people did not seek care until they were in pain or had obvious symptoms. Comprehensive treatment such as crowns and bridges are provided based on one's economic/political standing in the community. Gold, preformed crowns appeared to be favored for anterior teeth since the number of gold crowns is limited by the availability of gold. Stainless steel crowns are fabricated for posterior teeth for patients unable to afford the gold crowns. Full and partial dentures are fabricated in a similar manner to the USA. A full denture cost approximately 12 rubles. Only pensioners, veterans, Natives and children received prosthetics at no cost. The quality was observed to be excellent in the clinics visited.

Many alternative, holistic treatment approaches were discussed and observed. Electrophoresis is used to apply fluoride or calcium phosphate to remineralize enamel (3Amps for 10 minutes) and to enhance the

application of a ten percent iodine solution in root canal therapy. It is also used to effect anesthesia (like TENS technique) in limited situations. An herbal rinse is given to patients for periodontal problems. Also, an herbal/saline solution is injected into sulcus tissues for periodontal treatment. An electrical charge of 3 mAmps to the gingiva is also used to treat periodontal disease. Another treatment for periodontal disease was the use of mineral water for a warm water lavage of the gingival tissues.

## DISEASE PREVENTION/HEALTH PROMOTION

The Soviet diet, lack of home-care and dental knowledge appears to contribute to the high decay rates in the same way as among the Alaska Native population. Sugar intake is high, particularly in Magadan. Sugar is added to coffee and tea. Sweets and chocolate were frequently consumed.

There is no community water fluoridation in the Magadan region. A new water treatment facility is under construction in Pevek which could easily be constructed to include fluoride application if the proper equipment could be purchased and installed.

Topical fluoride application is limited to a fluoride lacquer which is reported to be painted on children's teeth several times a year. It is believed that the effect of this technique is limited as the stomatologists reported that the lacquer did not remain on the teeth for more than a few days.

Little chair-side time seemed to be spent on prevention. No cleanings or fluoride treatments were observed by the dental health group. It was mentioned that much of the dental health education is done in the school and kindergarten setting where teachers invited the stomatologists to lecture on a scheduled basis - one day per month was mentioned in Anadyr. There is also a special branch of the hospital which coordinates health education for TV, radio and even visits some high-risk families. Prevention and nutrition posters and displays in the hospitals and clinics were all hand-made and portrayed a clearly understood message. Toothbrushes and toothpaste are difficult to obtain in the Soviet stores. The toothbrushes are of an inferior quality, some with natural bristles, and did not last long. Toothpaste often does not contain fluoride

and usually tastes bad. Dental floss was not available in any of the clinics, although most stomatologists were aware of it.

There is a high prevalence of periodontal disease in adults. Periodontal disease is treated with the remedies previously mentioned. Routine cleanings are not performed. Supragingival scalings are done if the patient presented with a periodontal problem involving calculus on the teeth. These scalings are usually followed by dispensing of herbal solutions. A recent stomatologist graduate in Pevek related that his class in dental school was one of the first to be taught the theories of periodontal disease and its treatment. It must be mentioned that the treatment of periodontal disease in the USA is also still in a developmental process with new theories coming out on a regular basis.

There was minimal knowledge of dental sealants especially in the rural communities.

## ENVIRONMENTAL/SAFETY STANDARDS

Infection control is addressed differently than in Alaska dental practices. Rubber gloves and masks are worn usually for oral surgery procedures only. Usually all operatories have an autoclave for sterilization, however, cold disinfection appeared to be used most frequently. Mirrors and explorers were observed to be rinsed off and placed in a solution for a short period of time. Hands were washed between patients with bar soap, wiped on a universal towel which was also used for cleaning instruments and wiping the patient's face. Most operatories also have an ultraviolet light which is reported to be used to sterilize the operatory. In Anadyr the light is used during the lunch hour and evening when the operatories are not being used.

Radiographs were often of a poor quality and in the rural communities were usually taken in the hospital. There is only one dental x-ray machine in Pevek. It is located in the medical clinic away from the dental operatories.

Pharmaceuticals are limited. Novocaine is used in the rural areas while Lidocaine is available in Magadan. Few disposable needles are available. Syringes are cold disinfected and the large gauge needles are resharpened. Many herbal medicaments as described previously are used routinely. Antibiotics and pain medication are available but used sparingly. Most of these



Dental treatment in Anadyr.



drug products were manufactured in the Eastern European countries.

## RECOMMENDATIONS

1. Develop comparative dental epidemiological data. The Oral Health Unit, World Health Organization, reported that there was no oral health epidemiological data specific to the Magadan region, although extrapolation of existing data suggested that caries prevalence in all of Siberia was quite high. This was confirmed in discussions with the stomatologists in the region. The conclusion of the Dental Health Group, after the short two week expedition and the two week visit by the Soviet visitors to Alaska, is that the ideal solution in helping to improve the Soviet oral health delivery system is to combine "western" technology and prevention techniques with the Soviet health care philosophies. The USA might be more advanced in dental technology but often overlooks the basic and crucial patient care techniques and alternative holistic medicaments and treatment approaches which are used in the Soviet Union. Both systems could benefit from a program which provides the opportunity for interaction and exchange between educational institutions and individual professional colleagues. The information from these studies could be used to advocate for additional resources for the Soviet oral health delivery system. This information could also be compared to data which has been collected on rural and urban Alaska Native children by the Alaska Area Native Health Service Dental Program as well as to other data collected through the USA and other international dental studies such as the World Health Organization International Collaborative Study II.

2. Develop long-term relations between educational institutions and dental colleagues to establish technical training and dental health care education and promotion programs. (This can include dental school faculty and student exchanges and collaborative research activities.) Assist in the development of international exchanges between organizations such as the American Dental Association, the American Dental Hygienist's Association and the Soviet Dental Society.

3. Provide technical assistance to the communities in the Magadan Region to place fluoride in their community water systems and to develop primary dental prevention programs in the kindergartens of the Magadan Region. (Model demonstration of programs could be set up in several kindergartens with donated prevention materials.)

4. Assist the Magadan Ministry of Health to develop a mechanism to purchase new dental equipment and supplies.

5. Promote development of dental hygiene procedures and professionals to increase prevention and improve treatment of periodontal disease.

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## YOHIMBINE HCl

**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in *Rauwolfia Serpentina* (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon<sup>®</sup> is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

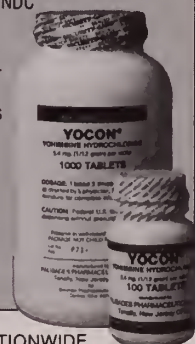
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yocon<sup>®</sup> 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

### References:

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# A COLLABORATIVE STUDY OF ECHINOCOCCOSIS BY PHYSICIANS OF ALASKA AND THE SOVIET FAR EAST

## A PROGRESS REPORT

### ABSTRACT

This second year study of echinococcosis gave a much better indication of the extent of the problem. Data offered substantiated evidence that the CIID that is prevalent in the Chukotka Region is essentially the same as that seen in Alaska.

### BACKGROUND

When an exchange of scientists of the Magadan/Chukotka Region and Alaska was first considered in 1989, the Soviets gave echinococcosis as one of their important health problems and proposed a joint study of this parasitic disease. As a consequence, a preliminary assessment of the problem was made by members of the First Alaska to Magadan/Chukotka Expedition to the Soviet Far East in July 1989. During this trip, the three regional hospitals of Anadyr, Magadan, and Bilibino were visited and a working relationship with the surgeons and other professionals from these hospitals were established. Our hosts generously provided transportation to visit several Native settlements as well as free access to their medical records. As a result of this trip, *several observations were made.*

1. A widespread problem of cystic hydatid disease (CHD) was found, particularly among the reindeer-herding Chukchi and Eskimo Natives. It appeared that this disease is similar to the northern or sylvatic form (wild animal cycle) of CHD that is prevalent in Alaska.(1) The need to be very certain of this was recognized because experience in Alaska has demonstrated that this form of *Echinococcus granulosus* results in a benign disease for which surgical intervention is seldom required.(2) The Soviet *surgeons* were still treating these cases as is recommended in textbooks for the European or pastoral form (domestic animal cycle) of this disease, i.e., with surgical intervention for virtually all cases. A data sheet was prepared so that Soviet cases of CHD could be matched with our experience with about 250 cases in Alaska and a joint study was initiated.

2. Alveolar hydatid disease (AHD) was also found to be widespread throughout the Magadan/Chukotka Region. This infection, if untreated, almost invariably

results in a fatal outcome and is clearly the disease that warrants the major effort of future studies. It has been shown that two chemotherapy agents, mebendazole and albendazole, have given very encouraging clinical results.(3, 4, 5, 6, 7) Studies in Alaska are, however, restricted by a very limited amount of clinical material. The Soviet physicians have a much larger pool of clinical cases but prior to this first visit had not had access to these chemotherapeutic agents. It was apparent that a joint collaborative study would provide important advantages to all participants. As an outcome of these findings, we have prepared and submitted a request for funding for preliminary studies dealing with screening, treatment, and prevention of AHD in the Soviet Far East to the Fogarty International Foundation. This proposal has been forwarded to the Soviet Union for consideration.

We again visited the Soviet Far East for further preliminary studies in July 1990. Dr. Michael Kliks, a parasitologist at the University of Hawaii, joined us for this trip as a new member of the *Echinococcus* study group. Again, we were impressed with the warm hospitality with which we were treated and the enthusiastic response to the proposals for collaborative study.

During this visit, a much better grasp of the extent of the problem was obtained. We briefly reviewed records of 241 cases of echinococcosis in order to assess regional prevalence rates. These were divided into 98 cases of AHD and 143 cases of CHD, 58 of whom presented with pulmonary cysts and 85 with hepatic cysts. Dr. Alexander Teluskin had prepared a regional map showing the distribution of these 41 cases by village. Four small Native settlements on the North Slope of the Chukotka District were selected as potential study villages for subsequent visits and field studies. Twenty five cases of AHD had been diagnosed among these four villages.

We were encouraged to learn that since the first visit, several newly diagnosed cases of CHD were being managed non-operatively, and chemotherapy for two AHD cases was, for the first time, initiated.(8)

We recently received 40 *Echinococcosis granulosus* data sheets from Anadyr. (Additional data sheets from the Soviet Far East and from Kenya are being prepared.) A preliminary analysis of these data show

important similarities to 251 cases from Alaska and marked variance with the classical CHD of European origin (sylvatic form). Table 1 summarizes these findings. The diameter of pulmonary cysts that are seen in the Anadyr region are comparable to those seen in Alaska (36 mm vs. 41 mm) and are much smaller than those reported from Europe (93 mm). The absence of both daughter cysts and the classical complication of sylvatic diseases such as anaphylaxis, seeding and dissemination are important differences in the clinical presentation of the disease as seen in Alaska and the Anadyr region from those reported worldwide. Among patients infected with the northern form symptoms are seldom seen except in those with "complicated" cysts, i.e., those which have ruptured or have become secondarily infected. An independent, unpublished study carried out prior to the present study in the Chukotka Region of the USSR by the Soviet authors of this report, presents data relative to this study. Among 90

cases of *Echinococcus granulosus* infection of the liver, 65 cases (72%) had calcified cysts. Although 53% of cases were followed for ten or more years and 70% for at least five years, the size of the cyst remained stable throughout the follow-up period. Only 17 of these patients were submitted to surgery and there were no cases of post-operative recurrences of infection or complications. In contrast, virtually all cases of CHD of the liver reported from the sheep and cattle raising regions of the world present with symptoms and require surgical intervention.

The data from these studies offer substantial evidence that the CHD that is prevalent in the Chukotka Region of the Soviet Far East is essentially the same as that seen in Alaska. A conservative management plan for patients with this infection appears to be appropriate. This is only a preliminary assessment and the studies now underway should be completed and reported.

**Table 1**

**CHARACTERISTICS OF CYSTIC HYDATID DISEASE FROM ALASKA, ANADYR REGION OF THE USSR, AND THE EUROPEAN FORM**

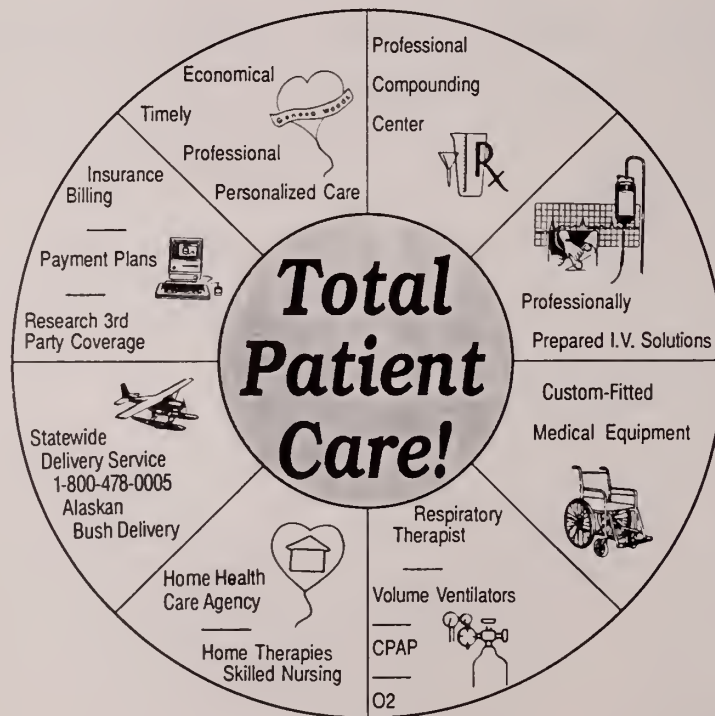
	ALASKA		ANADYR REGION		MEDITERRANEAN*	
	Northern (sylvatic) form		Magadan/Chukotka Region		European (Pastoral) Form	
	Pulmonary	Hepatic	Pulmonary	Hepatic	Pulmonary	Hepatic
	n = 24	n = 95	n = 15	n = 24		
Age at Diagnosis	26	58	40	48	29	
Size of cysts, cm	41	50	36	36	70 to 90	
Daughter cysts present	0%	0%	0%	0%	20 to 25%	
Classical Complications Related to Parasite	0%	0%	0%	0%	10 to 24%	
Symptoms at Diagnosis	17%	15%	0%	0%	100%	100%
Treatment:						
Resections	46%	8%	69%	8%	100%	100%
Resections since 1966 n = 61	1.6%					

\*Unconfirmed data from a variety of sources.  
n Number of cases

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# SEXUALLY SPEAKING . . .

By Mary B. Cavalier, M.S.<sup>(1)</sup>

Introducing a new series dedicated to sexuality and your patients. My hope is that in future issues the format will be question and answer. I wish to encourage you, the readers, to submit questions either in writing or call the staff of Alaska Medicine. In the mean time, this introductory article is on Vaginismus.

## VAGINISMUS:

Have you ever had a patient stand straight up with pure fear on the stirrups when you have attempted a pelvic exam? Or a woman express concern about her honeymoon night? These two examples illustrate some of the ways patients may express having vaginismus.

Vaginismus is defined as a condition in which there is recurrent and persistent involuntary spasm of the musculature of the outer one-third of the vagina that interferes with insertion of an object and/or coitus. A rare presentation is primary vaginismus. This presents in a woman who has never been able to experience insertion of any kind (e.g. tampons, fingers, speculum, penis etc.). The more common presentation is secondary vaginismus. By definition, the woman has experienced insertion but due to physical and/or emotional reasons no longer can relax enough to experience insertion.

## PHYSICAL ETIOLOGY

The following are a few examples of physical preconditions for secondary vaginismus: PID, Endometriosis, extreme painful child birth. The patient may at first experience dyspareunia. If she ignores it or denies it and persists with painful coitus, a fear of pain may result in a involuntary contraction of vaginal muscles.

## PSYCHOGENIC ETIOLOGY

Psychogenic etiology is the most common reason for vaginismus (primary and secondary). Sample of preconditions are: rape/incest, fear of pregnancy, excessive religious teachings, fear of sexually transmitted diseases, abusive relationships.

## ASSESSMENT

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<sup>(1)</sup>Robert Alberts, M.D. & Associates, 3340 Providence Drive, Anchorage, AK 99508.

To determine appropriate treatment protocol, first a physical is recommended to rule out any of the above mentioned physical conditions. If there appears to be a physical cause, please do not rule out a psychogenic cause. I recommend a brief psychosocial evaluation to be preformed to completely rule out sexual trauma. The reason for this is that sexual trauma is very predominant in our society and if not detected, will sabotage any treatment recommendations you make.

## TREATMENT RECOMMENDATIONS

If a psychogenic etiology is determined, counseling is highly recommended. When issues are resolved or patient denies this recommendation the following may be prescribed to be done at home. It is recommended that each step is successfully completed before going onto the next step.

1. Full body relaxation exercises and kegels (flexing and relaxing muscles controlling urination). By the time a patient presents this problem, there is a great deal of anxiety. This step will help in relaxing the patient.
2. Self exploration of whole body slowly progressing to genital area. Due to the fear of pain, the patients's body may become an "enemy". This exercise reintroduces herself to the pleasure her body can give.
3. Nongenital sensate focused touching exercises for the couple. These are designed to reintroduce pleasurable touching for the couple and reduce anxiety associated with genital contact fear.
4. Introduction of insertion with dilators or fingers (hers or her partner's). It is important that what ever is inserted must be well lubricated. The patient is to stop at any point in which pain is experienced. The patient needs to feel complete control over this procedure.
5. The couple may be ready to introduce coitus. The patient must feel in control of when and how. Lubrication is recommended. Most importantly to stop if pain is present.

## PROGNOSIS

Due to the individual nature of vaginismus it is difficult to determine the length of treatment needed. Overall, prognosis for secondary vaginismus is good if underlying psychogenic and/or physical etiology is resolved.



# History of Medicine in Alaska

## THE ELSNERS: ELIZABETH FULLER, M.D. AND ROBERT, PH.D.

It was a pleasant surprise to find while interviewing Elizabeth Elsner, that the lives and careers of the Elsners were so interwoven that it is impossible not to consider them together. She is a physician; he is a physiologist.

Elizabeth was born into a New England family both sides of which had long known one another. Her grandmothers had been good friends. Robert was born in Boston but grew up in South Weymouth. As a boy, he collected snakes.

Betty, living in Fall River, attended the same grammar school her father had and even was taught by some of his teachers. She went on to the Lincoln School in Providence, Rhode Island. It was modeled on the Friends Schools, and Betty became interested in the personal commitment of the Quakers.

Bob was graduated from Mt. Herman School, a prep school in central Massachusetts which required students to work on its farm, in its dormitories, and in the offices. He was a classmate of Rodman Wilson, a retired internist in Anchorage.

Betty went to Mt. Holyoke College, where during World War II, campus employees went off to work in factories, and the undergraduates washed dishes, made beds and picked vegetables from the college gardens. She spent three years at college majoring in chemistry and biology. After her first year in medical school she received her B.A. from Mt. Holyoke.

During her first two years at Yale University School of Medicine the program was accelerated, then in 1947, decelerated. Part of the requirement for her degree was a thesis for which she prepared at the Sloan Kettering Institute for Cancer Research in New York. She became convinced that she should not continue in research; however, the technique she described that isolated and perfused tumors with anticancer drugs became an accepted method of treating some cancers.

During the war, Bob was an American Field Service ambulance driver in the Middle East, North Africa and Italy, returning home in 1944 as a seaman in the merchant marine. He returned to New Hampshire to work at the Mt. Washington Observatory, as he had done before the war.

In the summer of 1944, Betty worked as a cook for

the Appalachian Mountain Club at Pinkham Notch. In that lovely spot at the foot of Mt. Washington, Bob and Betty met and during Christmas vacation of 1946, they were married. Betty remained in New Haven, Bob in New York city. He received a B.A. degree at New York University having taken courses at the University of New Hampshire, Brown University, Hunter College and the City College of New York. Their first apartment, in effect, was the New York, New Haven and Hartford train.

After receiving her M.D., Betty did an internship and a year of pediatric residency in hospitals in New York city.

During the winter of 1950 they drove to Seattle. They kept the engine running to keep the old Ford station wagon from freezing and drove in their sleeping bags to stay warm. After their arrival in Seattle, Mt.

Rainier was not visible for a week, but there was green grass and roses were blooming in January. Dr. Elsner continued her pediatric training at the Children's Orthopedic Hospital and afterwards worked parttime at the Union Bay Child Development Center. Bob earned an M.S. at the University of Washington.

The first of their many field experiences in Alaska occurred between 1953 and 1956 when Bob became a research physiologist at the USAF Arctic Aeromedical Laboratory at Ladd Air Force Base near Fairbanks, where he worked on the physiological effects of cold and high altitude. He and other scientists, including Bob Whaley, a retired internist now living in Anchorage, went to Old Crow for studies of cold adaptation in arctic Indians.

In the meantime, Betty entered private practice with the Fairbanks Medical Clinic with Drs. Arthur Schiable and Paul Haggland. Dr. Haggland asserted that "Alaska is no place for a woman doctor." He didn't think she would be able to cover at night. However, during the absence of Dr. Ribar, she delivered 30 babies among which were a breech presentation and a set of twins which she delivered almost "textbook in hand." Happily they arrived according to the book. At the same time, she helped start the first Well-Baby Clinics for the Territorial Health Department.

She and John Tower of Anchorage worked as pediatric consultants for the Crippled Children's Service

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Bob and Betty Elsner are a fascinating couple who have worked creatively - individually and together.

---

under the Federal Children's Bureau, diagnosing chronic diseases and referring the patients to the appropriate service. They divided the state in half with Betty covering Nome, Barrow, Arctic Village, Steven's Village, Beaver, Fort Yukon, Venetic and Anaktuvik Pass. She frequently found herself working with Public Health Nurses and in the Hudson Stuck Memorial Hospital at Fort Yukon, often seeing 30 to 40 children a day. While she was board eligible, she was too remote to sit for certifying examinations.

Along with all these achievements, Betty had children: Wendy in Seattle in 1952, Peter in Fairbanks in 1954, and Steven in Winslow, WA in 1957.

In 1956 the Elsners returned to Seattle where he worked as research associate in the University of Washington Department of Physiology and Biophysics. Bob earned a Ph.D. there in 1959. Betty returned to the Seattle-King County Health Department in the maternal and child health program, and the Children's Orthopedic Hospital outpatient clinics.

In 1957, Robert went to Australia to study temperature regulation in aborigines who wore little or no clothing and slept naked in the cold.

Betty was expecting their third child. She was living in an isolated part of Bainbridge Island in Puget Sound. Christmas Day went joyfully but early the next morning, during a raging rainstorm, Betty suddenly went into labor. She gathered towels, a Kelly clamp and ergotamine, went into the bathroom and delivered herself. She moved her then three-year-old son Peter out of a lower bunk bed and crawled into it with the new baby to be near the phone. Wendy, age five, in the upper bunk awakened and thought the crying baby had been brought by someone for her mother to baby-sit. At dawn Betty began telephoning people. Having checked her own placenta, she asked a neighbor to bury it in the yard. She visited the doctor on the island who stitched her up a bit and prepared a birth certificate.

Steven became a journalist. He died suddenly in Australia at the age of 28 from dissection of the aorta due to unsuspected Marfan's Disease.

In 1959-61, Bob was visiting scientist at the Instituto de Biología Andina, Peru. There he studied temperature regulation, peripheral circulation and exercise tolerance in Andean Indians. Bob preferred to work in natural environments rather than in climate chambers. In Chile, he did research on the Alakaluf Indians who dive in 40°F. water and walk barefoot in snow.

When Bob first went to South America, Betty and the children went back to Fall River where the school-aged children went to the same school as their mother and their grandfather. Wendy's second grade teacher had taught Betty. In this peripatetic life, Betty's mother and her home were stabilizing factors.

After they joined Bob in Lima, Betty served as an attending physician at the Hospital de Niño, a 500-bed pediatric hospital. She learned enough Spanish to manage ward rounds.

When Bob went to Norway, in 1961, to investigate exercise tolerance and cold exposure in nomadic Lapps, it was back to New England for Betty and the children.

San Diego was next for 12 years. Bob did research at the Scripps Institution of Oceanography, working in diving physiology of humans and marine mammals. Among many other things, he wrote a paper on a gray whale in captivity. Betty was a physician in maternal and child health for the San Diego Department of Public Health. Her knowledge of Spanish was helpful. She also coordinated a Public Health Peace Corps program.

The San Diego experience was broken by a sabbatical for Bob. He went to the Department of Human Physiology and Pharmacology at the University of Adelaide, South Australia, and Betty worked as a clinical assistant at the Adelaide Children's Hospital.

In 1973, Bob became Professor of Marine Sciences at the University of Alaska, Fairbanks. So it came full circle for the Elsners. Betty became principal instructor for an intensive training program for community nurse practitioners. She traveled from the logging camps in Southeast to Barrow, and from Nome to Northway holding classes covering maternal and child health as well as chronic diseases.

Robert Elsner has been Chairman of the United States Marine Mammal Commission for several years and has been reappointed recently. He became Professor Emeritus of Marine Sciences in 1988. A friend remarked that he "has retired so that he can spend more time working." Bob continues his studies on the cardiovascular physiology of diving mammals.

Betty was a physician on the student health service at the University of Alaska for 10 years and was involved in the WAMI program. Currently, she enjoys being a docent at the university museum, teaching elementary school children. She serves on the state and local boards of the League of Women Voters, Violent Crimes Compensation Board, Adolescent Health Coalition, Substance Abuse Task Force and the Fairbanks Coalition for Privacy in Pregnancy Decisions.

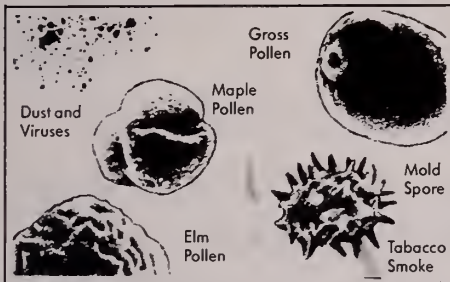
Bob Elsner's life overwhelms one with its variety of scholarly research and field experience. He has written books, chapters in books, reports and journal articles. In addition to the places mentioned, he has worked in Siberia, Antárctica and India. Often Betty Elsner has gone with him and has brought her professional skills to new situations, while always learning herself.

Bob and Betty Elsner are a fascinating couple who have worked creatively - individually and together.

Gwynneth Gminder Wilson  
Alaska State Medical Association Auxiliary



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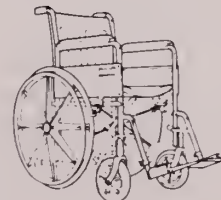
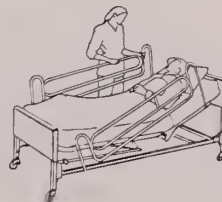
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by David Karp

## Dictated Medical Records Reduce Liability

Many physicians have discovered that dictated and transcribed office-visit progress notes improve the quality and legibility of medical record documentation. Dictated, transcribed records are advantageous in group practices in which several physicians read and interpret each record's data, and are useful in litigation of auto accident claims, industrial injuries, employment disputes, or malpractice claims. All of these are cases in which physicians may be subpoenaed to explain treatment or prognoses documented in their medical charts.

There are other advantages of dictated/transcribed medical records.

**A 'cure' for illegibility.** Legible, typed or word processor-generated medical records reduce the potential that other doctors or nurses will misread narrative notes and medication or treatment orders. Liability carriers report that misreading of illegible, handwritten medical record notes continues to cause patient injuries or treatment delays. Legible records reduce delays of third-party reimbursement.

**Better-detailed records.** Dictated and transcribed medical records usually are more complete and helpful in defense of a malpractice claim than are handwritten charts. Physicians tend to record more detail about examinations, conversations with the patient, medical decisions, advice dispensed, and contacts with consultants if they do not have to write the entries in by hand. Keeping consultants and referring physicians informed by sending copies of dictated progress notes reduces correspondence.

**Useful shortcut.** Some word-processing programs use macros-subprograms that assign a complete sentence, paragraph, page, or document to a single keystroke. For example, when the doctor dictates that a pelvic examination is negative, the typist invokes a single-key macro that prints out the doctor's standard description of a negative pelvic exam.

**Other computer uses.** Unlike early one-function word processors, modern personal computers used primarily for word processing can run thousands of software programs for scheduling, accounting, maintaining mailing lists, and billing. User-selected passwords prevent unauthorized access to computerized medical records and business ledgers.

Physicians who are contemplating dictated/transcribed medical records should consider an inexpensive personal computer with word-processing software. These tools are more flexible than standard or memory typewriters and, with minimal instruction, are easy to use to create, edit, and print medical chart entries.

Some precautions will ensure the integrity and accuracy of dictated/transcribed medical records.

**Prevent data loss.** Hardware failures or electrical surges can destroy valuable data. Surge protectors avoid damage to hardware and software. Daily backup of computer-generated data onto floppy disks, tape, or other media is insurance against hardware or software malfunction. Inexpensive backup software programs are fast, simple-to-use, and foolproof.

**Guard against lost dictation.** The doctor should retain rough notes until the transcription has been returned. A dated handwritten note including key phrases in the progress record to indicate that an entry has been dictated alerts others that recent exams and findings have not yet been posted and helps with the reconstruction of notes, should the dictation be lost. Include dictation and transcription dates on transcribed documents.

**Review and sign transcription.** The author should promptly read and sign dictated and transcribed reports. The use of rubber-stamped disclaimers such as, "Dictated but not read," does not reduce the physician's responsibility for undetected errors or omissions. Blank spaces on transcribed documents are difficult to explain months or years after an event. Typing errors should be corrected by drawing a single line through the mistake so that it can still be read and *legibly* writing the correction above or in the margin; initial and date the corrections. Include an explanatory note if changes are substantial.

**Dictate meaningful notes.** Medical record progress notes, handwritten or transcribed, should include:

- \* the patient's complaints or reason for the visit
- \* findings of the physician's examination
- \* diagnosis or assessment
- \* a summary of treatment rendered or prescribed
- \* future treatment plans and a return visit date.

**Print out records daily.** As computerized documents can be altered without detection, some courts do not consider documents on computer disk or tape authentic records unless a printed copy was generated at the time of the document's creation. Although technology can be used to determine the age of ink and paper to detect alteration, it cannot authenticate the true creation date of electronically stored data. A daily printout of records created on a computer, word processor, or memory typewriter also is a safeguard in the event the electronic version is destroyed or damaged.

*David Karp is the loss prevention manager at Medical Insurance Exchange of California. This article is presented to promote discussion and learning about loss prevention. Opinions expressed are those of the author and do not necessarily reflect the views of Alaska Medicine or ASMA. Reprinted with permission.*





# American Society for Circumpolar Health

## International Union for Circumpolar Health

The International Union for Circumpolar Health (IUCH) has long been an advocate for international cooperation in recognition of the unique health problems and shared common concerns of the North. Further evolution of this cooperation has resulted in the IUCH as co-publisher with the Nordic Council for Arctic Medical Research of Arctic Medical Research as announced in the January issue of the Journal.

The American Society for Circumpolar Health (ASCH) will continue to be responsible for the mailing of the journal to all ASCH members and USA subscribers.

Additionally, ASCH members John Middaugh and Ted Mala have been appointed to the Arctic Medical Research Editorial Board along with T. Kye Young representing the U.S. and Canada, respectively. We can look forward to an expanded Journal in the future.

During the past year, the IUCH has been working toward the establishment of a permanent secretariat. Alaska has been the proposed location of the office. ASCH has negotiated an agreement with the University of Alaska - Anchorage for space and administrative support. The Canadian Society for Circumpolar Health has recently received official approval of \$75,000 from the Canadian Government to be apportioned toward salary. The IUCH is in the process of working to establish the Secretariat as soon as possible, and will next meet to review possible candidates.

## Albrecht-Milan Foundation

In past issues, we have been reporting on the concept, purpose and plans for development of the Albrecht-Milan Foundation. The organizational committee has made rapid progress and the Foundation is now a reality.

An introductory meeting for prospective Board of Trustees members was held on January 24th. Helen

Beirne, John Middaugh and Carl Hild contributed in describing the history of the American Society for Circumpolar Health, Drs. Albrecht and Milan's contributions, and the Foundation concepts.

The first meeting of the Board of Trustees was held on February 25th, the Foundation Bylaws were approved and a Nominations Committee appointed. Elections for officers of the Board of Trustees will be held at the next meeting, March 28th.

The present members of the Board of Trustees are: Helen Beirne, Carl Hild, Robert Krantsas, Kay Linton, Stella Odsather, Frank Pauls, David Stratton, James Tapscott, Anita Tigert, and Joseph Whitlock. Appointed by the Board as Honorary Trustees are: C. Earl Albrecht, Frederick Milan, Elmer Rasmussen, and John Wood.

The Board of Trustees is planning a "Kick-off" celebration during the month of June both in Anchorage and Fairbanks in conjunction with Dr. Albrecht's anticipated visit to Alaska.

## ASCH Elections

The results of the December elections for Treasurer of the Society resulted in election of Anita Todd-Tigert to the Board of Directors. We welcome Anita for her ideas and energy, and to fully complement the Board.

### Board of Directors

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### IUCH Delegates:

Carl Hild  
John Middaugh

# Alaska Science & Technology Foundation

The Alaska Science and Technology Foundation (ASTF) was established by an act (AS 01.10.070) of the Alaska State Legislature in 1988. The mandate is to “promote and enhance through basic and applied research: economic development and technological innovation in Alaska; public health; telecommunication; and sustained growth and development of Alaskan scientific and engineering capabilities.” The Foundation is a public corporation. An endowment was established, and the Foundation operates entirely off interest earned by the endowment. ASTF is governed by a Board of nine directors; operations are conducted by an executive director and staff.

The key terms for the Alaska health community are *applied research* and *public health*. The Board interprets public health broadly to include, environmental health, medicine, and safety.

Although the legislation endorses both basic and applied research, to date priority has been placed on applied research. The Board is committed to the goal of promoting and enhancing public health and the quality of life of Alaska citizens, not just promoting economic development.

ASTF functions largely as a granting agency. There is a request for proposals (RFP) which includes public health, safety, and medicine as well as agriculture, arctic engineering, community economic development, fisheries, fossil energy resources, forestry and wood products, and mining. The RFP is meant to encourage proposals in select areas, however, proposals may be submitted at any time for topics not specifically addressed by the RFP.

Before submitting a proposal, a “preproposal” is required. This is a short (two-page) description of the project (to be submitted on preprinted forms). This will be reviewed by the Executive Director and staff, particularly with regard to how the project fits the funding criteria established by the Board. A preproposal is followed by a full proposal, again to be submitted on a preprinted form. Funding decisions are made at three of the Board meetings held throughout the year. The preproposal deadlines and full proposal deadlines are scheduled to coincide with the Board meetings, allowing time for prior peer review. Future deadlines are May 13 and September 23 for preproposals.

The next postmark deadlines for full proposals are July 8 and November 4.

The General Solicitation document outlines the criteria utilized in reaching funding decisions. In brief, these include: leverage of existing resources; vertical integration; research performance competence; project benchmarks; intrinsic merit of the project; and utility or relevance of the research on community development, scientific and technology resources, and

public health. After a full proposal is received, it is directed to the appropriate technical area review (TAR) chairman. This is a person with expertise in the appropriate technical area who then requests three or more peer reviews from a list of reviewers, also with technical expertise in the area. For each proposal, attempts are made to select reviewers who represent

a balance of in-state and out-of-state expertise. Originally, environmental projects were handled by the TAR chairman for Public Health. More recently, Environment has been created as a separate category. Dr. David Templin is currently the TAR chairman for Public Health, Safety and Medicine, while James E. Hemming functions in this important role for Environment. A list of reviewers is available from the ASTF office.

Funding decisions are reached by the vote of the full Board, after detailed review of the proposal and the comments of the reviewers. The Board may: fully accept the proposal; accept the proposal conditionally pending certain specified modifications; request a revision and resubmittal; or deny the request for funding.

It is of utmost importance that, *before* submitting a proposal, applicants understand: the goals and objectives of the Foundation; the criteria utilized in awarding grants; and the forms to be completed. A packet of information can be obtained from the ASTF office, and staff and consultants are available for questions at any stage of the process (550 West 7th Avenue, Suite 360, Anchorage, Alaska 99501-3555; 272-4333). The ASTF office maintains a mailing list to announce RFPs and awards; advise of changes in forms and/or procedures; and distribute the newsletter. A grant preparation workshop specific to ASTF and the health area is being planned for this spring or fall.

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The ASTF Board is committed to the goal of promoting and enhancing public health and the quality of life of Alaska citizens, not just promoting economic development.

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## Questions and Answers Regarding ASTF & Public Health

Q: *What is the purpose of the Alaska Science & Technology Foundation?*

A: The Foundation was created to make public funds available for long-term investment in economic development and technological innovation within the State, and to improve the health status of its residents. Through the awarding of grants for basic and applied research, the Foundation will enhance the State's economy and help build its science and engineering capabilities.

Q: *What types of projects are being sought by the Foundation?*

A: Proposals are encouraged for all projects which will assist in meeting the above goals. In addition, there are specific areas in which proposals are being sought. Some of the topic areas are fisheries, coal technology, forest products technology, rural energy systems, telecommunications, and public health and safety, plus any other areas that meet the criteria.

Q: *What is the process of submitting a proposal to the Foundation?*

A:

- Submit "preproposal" on forms provided by ASTF
- Preproposals reviewed by ASTF for suitability and to pinpoint areas which need strengthening
- Submit full proposal (ten copies required)
- Proposal evaluated by technical/business reviewers with expertise in area of proposal
- Review of proposal and reviewers' comments by full Board of Directors
- Grant contract written and signed

Q: *What time interval is generally involved in this process?*

A: Applications are accepted on an ongoing basis. From the time a preproposal is submitted, it can take as little as five months to have the Board's decision on a full proposal. There are postmark deadlines three times a year, which place applications in batches. If your proposal is submitted after a deadline, it will automatically be considered with the next group.

Q: *Can state or federal agencies apply for grants?*

A: Yes, state and federal agencies can apply for grants. However, ASTF will not fund proposals for work that should normally be carried out and funded by

a particular agency and which has not been funded because of too low a priority within the agency. It does not fund programs or services per se --only research and evaluation projects which might lead to improved programs or services, effect a cost benefit or improve quality of life. The Foundation also will not pay standard overhead on grants to other agencies. ASTF will only pay assignable costs directly related to the project.

Q: *Does the "little guy" have a chance of getting funding?*

A: Yes, any proposer, "little or big," can have a project supported by the Foundation if it meets the criteria of a research or development project aimed at expanding the economic base and promoting the public health of the state. As stated specifically in the enabling legislation, at least one half of the proposals funded will be for projects of \$100,000 or less.

Q: *What is leveraging?*

A: Leveraging involves demonstration of what the applicant and/or his institution/agency are contributing to this project (personnel time, space, equipment, dollars), as well as what other agencies/institutions/organizations will contribute.

Q: *What is vertical integration?*

A: Demonstrate that, as principal investigator, you understand and have documentation of the problem; you have acquainted yourself with all available knowledge and expertise within the state (and elsewhere); and you are aware of previous work (if any) and the results. Most important, you should show that you have contacted and have the cooperation of agencies or other organizations who would benefit and use the results of your research. ASTF is not interested in funding projects if the results, in reality, will never be accepted, applied, or utilized.

Q: *What are benchmarks?*

A: These are measures of progress; i.e., measurable objectives and tasks that you identify and to which you assign a date of completion. Benchmarks allow both you and the Foundation to track your progress during the granting period. Funds can be withheld if the project falls markedly behind the deadlines. Timelines can also be altered, in collaboration with the grants officer, to realistically address unexpected hurdles.

Q: *What is Alaska's infrastructure?*

A: With regard to research, public health, medicine, and safety, Alaska infrastructure is the in-state capacity to carry out research and programs. Ideally each project should in some small way enhance the ability to address Alaska's public health problems now, and in the future.

Q: *I had a good idea, applied for funding, and my proposal wasn't funded. What do I do now?*

A: All unsuccessful applicants are sent letters that outline areas in which their proposal could use improvement or did not meet ASTF criteria. Consider these comments and determine whether a revised and improved proposal might be successful. These suggestions can be used as a guide for upgrading your proposal. Reviewers are not infallible; they may have misunderstood your proposal or you may not have provided enough information.

Q: *Have any public health projects been funded by ASTF?*

A: Yes, work is currently in progress on the following projects which have a health component; automated control device for the Ilizarov orthopedic procedure; development of an integrated system to measure back mobility and strength; hepatitis B immunization in premature infants; and an on-site waste disposal system.

As of January 1991, ASTF funded 5 (19%) of 26 health proposals submitted. This exceeds the average (14%) for the foundation. One proposal, though funded, was unable to receive Institution Review Board approval. It is anticipated, that in health as in other areas, as time goes on a greater percentage of proposals submitted will be funded.

Anne P. Lanier, M.D. MPH  
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# GLIMPSES OF ALASKAN MEDICAL HISTORY

Edited by Robert Fortuine, M.D.

## THE BEGINNINGS OF MEDICAL CARE IN RUSSIAN AMERICA

Medical care in the first years of the Russian-American Company was provided, when at all, by physicians and surgeons of Russian naval or supply ships that visited Sitka, Kodiak, Unalaska, and other settlements from time to time. As noted earlier in this series, Drs. Langsdorff and Mordgorst had each spent a winter in the colonies in the first decade of the 19th century. Dr. Egor Scheffer, physician on the naval sloop *Suvorov*, arrived at Sitka in 1814 and remained with Aleksandr Baranov for the greater part of a year before sailing to Hawaii and achieving there a measure of political notoriety. Other surgeons provided care for a month or two while their ships were in port.

Baranov as far back as the 1790s had recognized the need for regular medical services in the colonies, but his requests for a permanent physician were repeatedly denied. By early 1818, shortly after he had been replaced as chief manager, a building had been set aside as a kind of hospital, but no physician was assigned to it until 1820. What finally convinced the directors in St. Petersburg is uncertain, but it may have been Chief Manager Ivanovskii's reports following his very personal experience with an epidemic in Kodiak the previous year.

In any event, from 1820 on one or more physicians were stationed at Sitka and had at their disposal a hospital facility for treating patients and teaching apprentices. Over the years the Sitka hospital was enlarged and smaller facilities were built at Kodiak, Unalaska, Atka, and perhaps elsewhere.

Kyryll Khlebnikov, from whose book on Russian America most of the following text is taken, arrived in Sitka in 1817 as an accountant hired to look into Baranov's administrative records. Contrary to everyone's expectations, he gave the retiring chief manager high marks for his scrupulous business accounts. In fact, he found so much to admire in the man that he later wrote his biography.

---

"The Board of Directors of the Russian American Company informs you that . . . surgeon Volkov, who [was] granted Imperial permission to be transferred to the American colonies, already left for Okhotsk.

"As to the surgeon, Volkov, you must be particularly careful in assigning his work. The reason for the absence of a regularly maintained hospital in the colonies, where the diseased could find immediate and speedy assistance, was that you did not have a permanent physician there. Now it depends on you to organize this useful institution; you have a physician, you have already received medicaments or they will be shipped to you in sufficient quantity; the rest is entirely in your hands."<sup>1</sup>

"The Governing Board sent a medical official to the colonies in 1820, and since then it supplies drugs and medications every year. Officials are selected and replaced constantly. Ever since 1825 three good rooms have been set aside for the pharmacy and the medical personnel who work there. Medications are kept in jars in orderly fashion, and of course in quantity and quality do not take a second place to any good pharmacy in any *uezd* town. Surgical and anatomical instruments are of excellent workmanship. The doctor now has four Creole boys studying medicine, anatomy and surgery with him.

"The infirmary, which is next to the pharmacy, has a separate room with eight beds for seriously ill persons. Others live in their own quarters and come to receive medicine in the morning.

"The infirmary is maintained from capital set aside for the benefit of the indigent; that is, capital which comes from deducting one-half percent from profits, according to an administrative decree from the Company, dated March 29, 1802; this capital is transferred from the Governing Board to the New Arkhangel office. In addition, some capital comes from various articles not entered as capital of the colony. At present, in accordance with instructions from the Chief Manager, it has been decreed that five percent be deducted from the proceeds of auctions held when officials depart from the colonies; it has also been stipulated that furs which officials and promyshlenniks have held secretly, over and above those which are their legitimate property in accordance with the official Imperial decree, be confiscated, and their value be transferred to capital for this use.

"The sick who are kept in the infirmary at doctor's orders receive fresh food, tea and sugar without cost, provided by the Company. Nothing is deducted from their pay for medication.

"It is to be hoped that of those persons given a scientific education by the Company, several young men may succeed in learning how to heal, so that infirmaries could be constructed in other departments for the good of all."<sup>2</sup>

## REFERENCE

1. Letter from the Board of Directors to Administrator-General Muraviev. March 25, 1820. Documents Relative to the History of Alaska, University of Alaska, 1936-38. Vol. 2, pp. 205-206.
2. Khlebnikov, K.T. *Colonial Russian America. Kyryll T. Khlebnikov's reports 1817-1832*. Trans. by Basil Dmytryshyn and E.A.P. Crownhart-Vaughan. Portland: Oregon Historical Society, 1976, p. 95.

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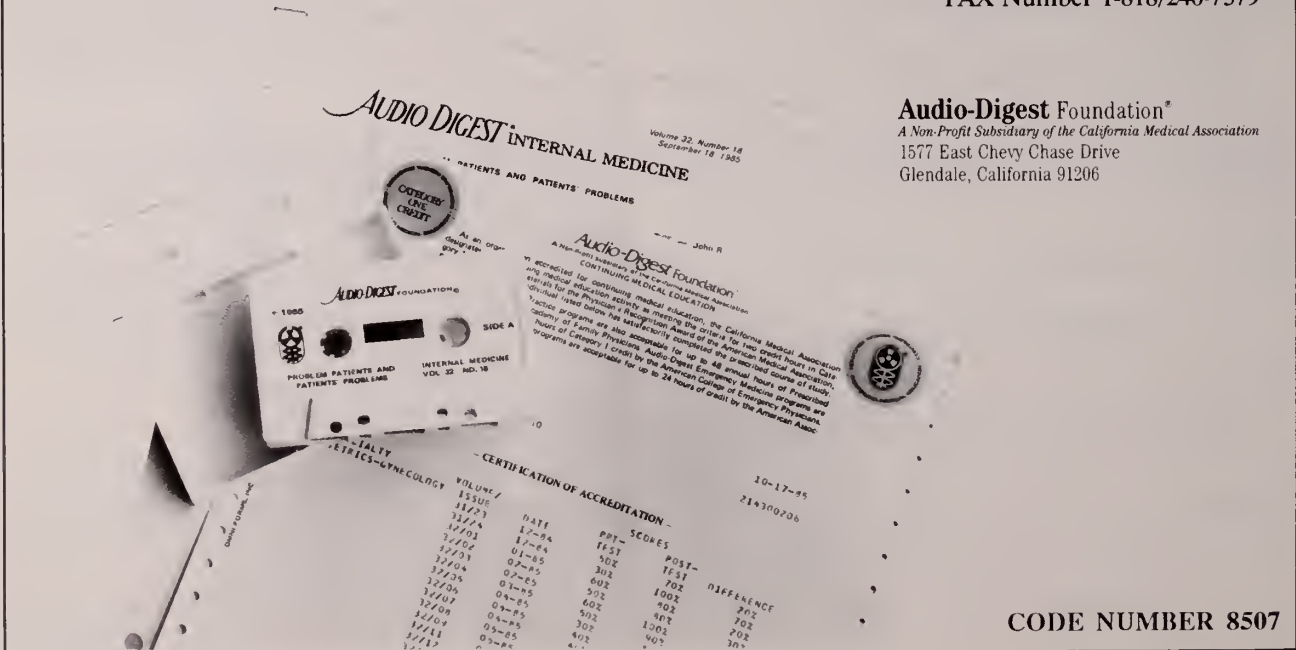
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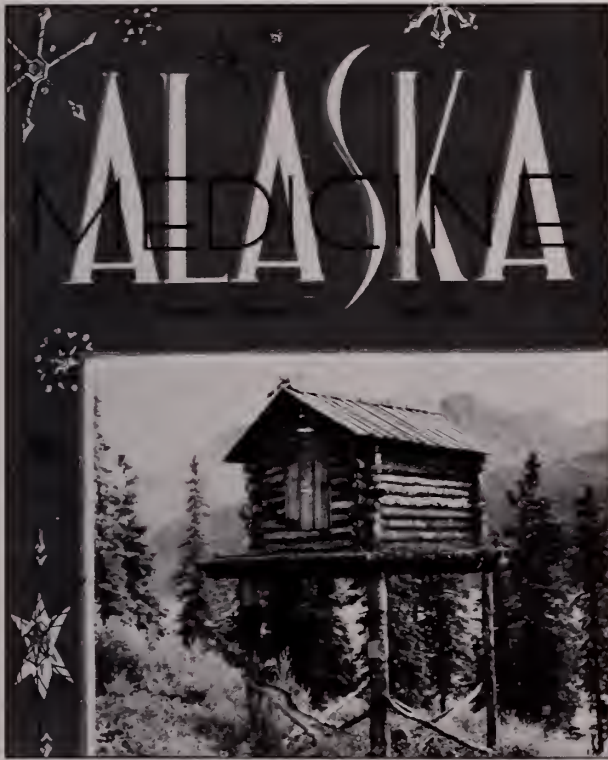


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# From Out of the Past -- Over 30 Years Ago

by Gloria K. Park, M.D.



<i>Alaska Medicine</i>	
Volume I, Number 2      JUNE, 1959	
☆	
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B	ALASKA MEDICINE

Like the first issue of *Alaska Medicine*, the second issue also had impressive medical reports and considerable information of historical interest. Much of the material in the medical reports is still apropos in Alaska today. Following are excerpts, comments and pictures from June 1959.

\* \* \*

"*Brucella Suis in the Arctic*" by Stan Edwards, M.D., USPHS Alaska Native Hospital, Anchorage. "A case of acute active brucellosis caused by *Brucella Suis* in a young Eskimo woman is presented. To our knowledge this was the first known case of brucellosis documented by culture from a native of Alaska. No definite conclusions could be drawn as to the source of the *Brucella* infection. However, the marrow of a freshly killed caribou was strongly suspected as the source. Four hundred eighty people were tested for *Brucella* titres. The patient and one other had positive titres and both had eaten raw marrow on a hunting trip. Up to this time, brucellosis had never been considered a problem in Alaska. . . it should be considered in the differential diagnosis of prolonged acute febrile illnesses. . . and especially in the differential diagnosis of tuberculosis such as extra-pulmonary lesions that do not completely

fulfill the diagnostic criteria." (Stan Edwards died in a plane crash while on a field trip for the Alaska Native Health Service.)

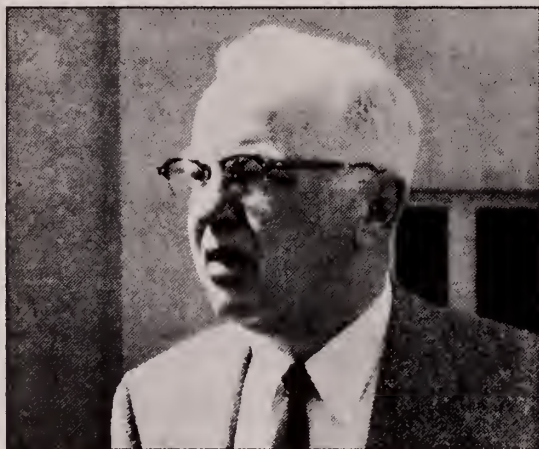
"*Prochlorperazine as a Cause of Bizarre Extra-pyramidal Reactions in Children*" by Helen S. Whaley, M.D.

"The tranquilizing drugs have had increasingly wider use and in 1957 total sales in the U.S. amounted to \$195,000,000. They have been extensively used in the pediatric age group for the alleviation of the nausea, vomiting, hyperactivity and pain associated with many childhood illnesses and have also served as pre-anesthetic medications and behavior modifiers. There are many reports of toxic effects from all of these agents. With the phenothiazine derivatives, the most alarming reactions have been extrapyramidal manifestations and bizarre seizures. The patients described here were all receiving prochlorperazine (compazine) but similar reports have appeared regarding chlorpromazine (Thorazine), perphenazine (Trilafon) and promethazine hydrochloride (Phenergan)." [This article appeared in *Alaska Medicine* long before any such information in the PDR. The first such reaction I saw was indeed quite alarming.]

*"The Open Fracture - Initial Treatment and the Evolution of Present Day Management"* by William J. Mills, Jr., M.D.. This was an excellent presentation and very appropriate in Alaska where patients often have to be treated in outlying areas due to weather or the time involved in transport to specialty care.

*"Tuberculosis in Alaska"* by E. W. Gentles, M.D.. "It is of interest to note that the incidence of active and probably active cases in 1958 was five times the average rate for the other 48 states in 1956. The incidence rate for natives was more than 20 times the incidence among whites but the death rates for natives was less than ten times the death rates in whites."

*"Postgraduate Study in Europe"* by James E. O'Malley, M.D.



James E. O'Malley, M.D.

"Last fall my wife, Dr. Virginia L. Wright and I journeyed to Vienna for some short courses in medicine. I have been told there are 32,000 hospital beds in Vienna. We were greatly satisfied with the instruction provided."

*"Dr. William H. Chase: Physician-Pioneer"* by Joseph Tedesco, M.D., Cordova.



William H. Chase, M.D.

This was a very interesting article about Dr. Chase who at the time was still seeing patients in Cordova at

the age of 86. He first became a nurse and then worked his way through the Eclectic Medical Training School, New York City, graduating in 1897. He headed to Alaska via Skagway and Dawson where he was both a miner and a physician. In 1909 he was appointed Alaska's first health commissioner. He also served more than 20 terms as mayor of Cordova and wrote many books and articles.

\* \* \*

Mrs. Vernon Cates noted in the *Women's Auxiliary* report that Dr. and Mrs. Bob Johnson provided skin diving exhibitions in the Kodiak small boat harbor.

\* \* \*

*Muktuk Morsels* by Helen Whaley, M.D. - excerpts:



Helen S. Whaley, M.D.

**Juneau** - Dr. William Ward joined Drs. Rude and Clements.

**Haines** - Dr. Phillip Jones became the first resident physician.

**Skagway** - Dr. William Coleman arrived from Tenino, Washington.

**Cordova** - Dr. and Mrs. Joseph Tedesco have a new baby girl.

**Glenallen** - Dr. Schneider will be gone one year for a residency.

**Fairbanks** - Dr. & Mrs. Donald Tatum have a new son.

**Kotzebue** - Dr. Robert Fraser has returned.

**Bethel** - Dr. George Wagnon has moved from Dillingham.

**Kodiak** - Dr. & Mrs. A. Holmes Johnson have been on a world tour.

**Anchorage** - Opening new offices: Dr. Louise Ormand, Dr. Rodman Wilson, Dr. Robert Whaley - formerly with the Arctic Health Research Center, Dr. William Madlock, Dr. Rudy Leong, Dr. Frank A. Montmorency - first urologist in private practice, Dr. Edwin Kraft formerly at Barrow and Dr. George Wickman.

\* \* \*



Letters to the Editors. . . excerpts:

"If a state medical association with 100 members can produce a journal like your first issue, four times a year, you will really be doing something." *Editor - the New England Journal of Medicine.* "Your new journal has an appropriately beautiful cover, the content is timely and most interesting to physicians throughout the U.S. Congratulations are in order." *Editor - Journal of the American Medical Association.* "No journal has been entered in our Kardex with more enthusiasm than *Alaska Medicine.*" *Medical librarian - Wayne State University College of Medicine.*

\* \* \*

Editorial page - William O. Maddock, M.D. "At its annual meeting in Juneau, ASMA accepted *Alaska Medicine* as its official publication. Dr. George Hale appointed the new eight member Editorial Board and the new board appointed Dr. Mills as Editor-in-Chief. In response to numerous requests, 1,000 additional copies of *Alaska Medicine* Volume 1 #1 have been printed."



George Hale, M.D., President, ASMA

Dr. Charles St. John reported on the Flying Physicians' Association and their upcoming meeting to be held in Alaska.

Minutes of the 14th annual meeting of ASMA in Juneau contained resolutions on *Alaska Medicine*, atomic energy, a request for a State Division of Public Health, an increase in dues to \$75. and substituted "state" for "territory" throughout the constitution and bylaws.

## President's Corner

As I mentioned last time, our gun control resolution ignominiously croaked at the AMA interim meeting in Orlando. I was naive to think that I could make an appeal to reason with very little documentation. That issue is as emotional as abortion. Unfortunately, the AMA has not applied the same principle to gun control as to abortion and has adopted the rhetoric of Sara Brady and others instead of the neutral position it has taken on abortion. AMA policy contains references to such absurdities as "rapid-fire semi-automatic rifles", "plastic guns", semi-automatic assault rifles", and seeks to control fully automatic rifles - which have been under control since the thirties.

I think that AMA policy should be based on rational premises and that standards of scientific accuracy should apply to social issues as well as medical. The AMA would not tolerate the inaccuracies and falsehoods that appear in the "crime" section of the policy compendium. A medical researcher reaching conclusions on such fallacious data would be ridden out of town on the proverbial rail.

I have drafted another, longer resolution that seeks to rescind the faulted provisions, and another to propose some regulatory items that could (but probably won't) positively influence the adverse affects of gun misuse.

I solicit your support for these in Juneau.

Donald R. Rogers, M.D.  
President  
Alaska State Medical Association

Dr. Charles St. John reported on the Flying Physicians' Association and their upcoming meeting to be held in Alaska.

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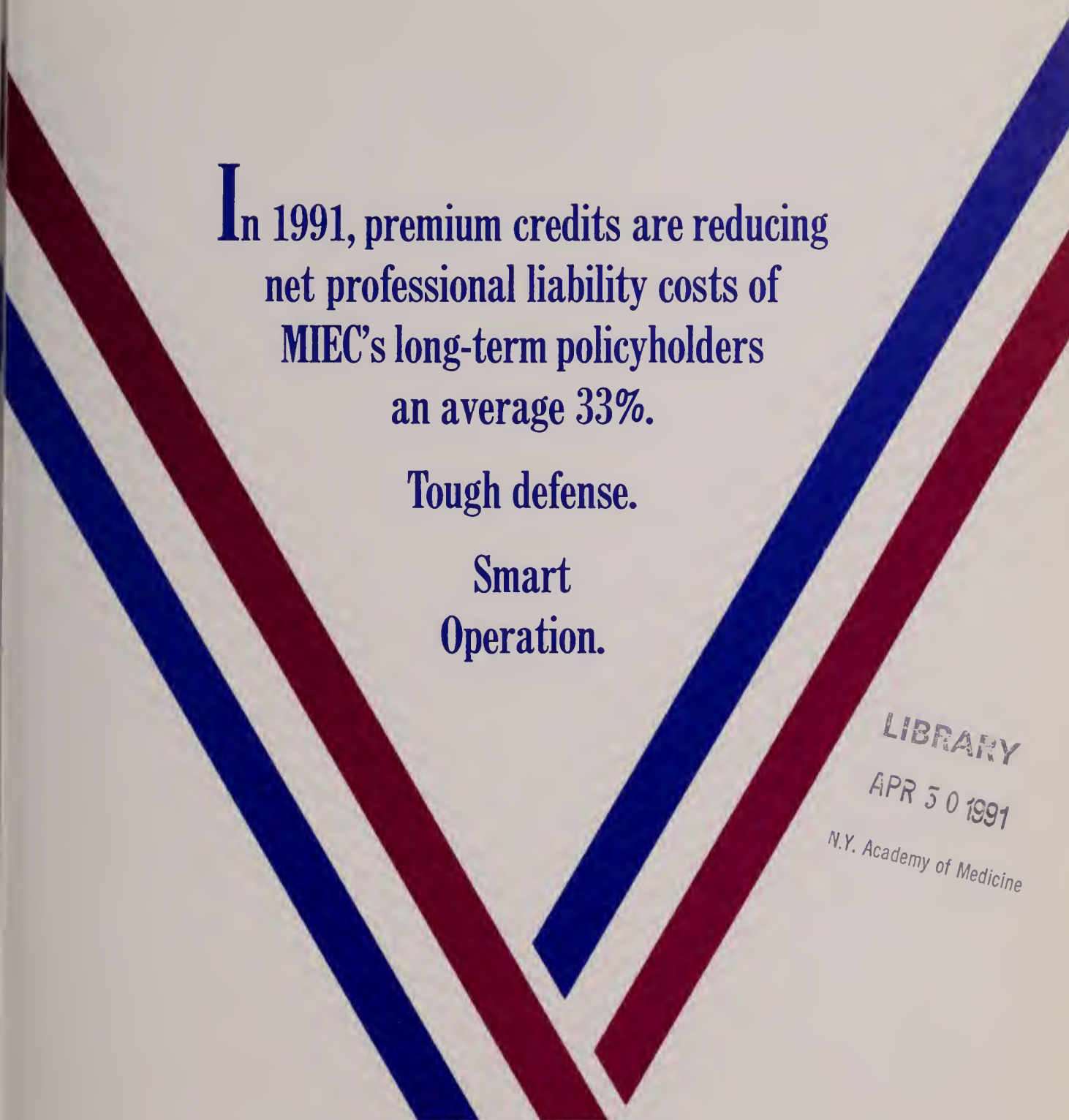
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# ALASKA MEDICINE

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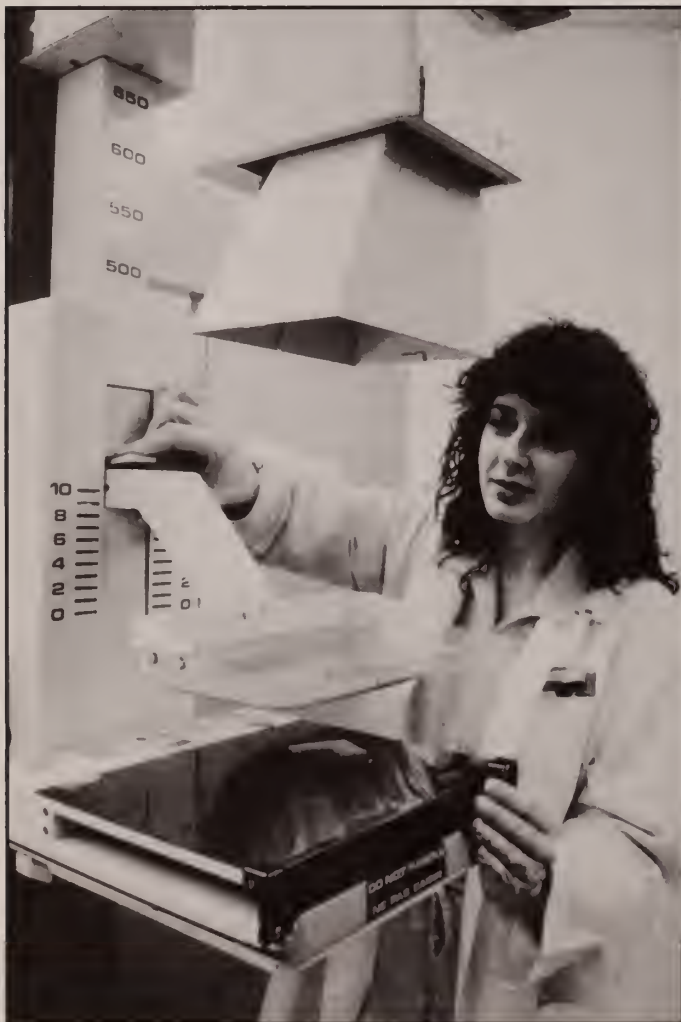
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Surviving Physician Stress  
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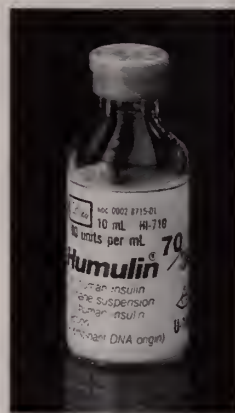


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insulin) may result in the need for a change in dosage.

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# ALASKA MEDICINE

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About the cover: "Willow Creek" near Hatcher Pass, Alaska. Photo courtesy of Charles Dmytriw, Winsted, Connecticut. Taken in July 1989.

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# Stevens-Johnson Syndrome Secondary to Ingestion of Salmon Berries

Griffith C. Steiner, BA<sup>1</sup>  
Robert W. Arnold, M.D.<sup>2</sup>  
Rudolf R. Roth, M.D.<sup>3</sup>  
James S. Ice, D.O.<sup>3</sup>

## ABSTRACT

Stevens-Johnson syndrome is an immune mucocutaneous disorder which can follow viral infections, mycoplasma infections and the ingestion of some drugs. There is also evidence supporting this disease as a hypersensitivity disorder. We observed a four-year-old girl with Stevens-Johnson syndrome attributed to ingestion of salmon berries (*Rubus spectabilis*).

## INTRODUCTION

Erythema Multiforme (EM) is an acute, self-limited eruption of the skin and mucous membranes, characterized by the distinctive target lesion. Should this progress to involve several mucous membranes and internal organs the disease is then classified as erythema multiforme major or Steven-Johnson syndrome (SJS). Certain foods including margarine, emulsifiers, chocolate and mushrooms (1-4) have been listed as minor causes of SJS, but we are unaware of SJS caused by salmon berries.

## CASE REPORT

A four-year-old female developed a rash four hours after eating a large quantity of salmon berries near her home in Kodiak. She had been healthy previously and her only prior exposure was a "couple" berries she had eaten one year earlier. The dull red flat macular rash spread to her arms, feet, hands and shoulders and was associated with a temperature of 102° Fahrenheit. The patient was seen at the Coast Guard Service hospital, diagnosed with a viral syndrome and placed on Benedryl.

Three days later the patient was seen by a physicians' assistant in Kodiak and was found to have a significantly decreased activity level, red eyes, painful urination and oral lesions that were painful enough to decrease her appetite. The rash had spread to cover most of her body, including palms and soles, but excluding her scalp. Her temperature, though responsive to acetaminophen, was still spiking to 102° Fahrenheit. The child was then evacuated by air to Elmendorf Air Force Base where she was admitted to the pediatric services.

The patient had been taking no medications and had a history of non-specific seasonal allergies. She had not been traveling and had no new food, chemical or environmental exposures aside from the salmon berries. She had a history of frequent otitis media (tubes placed at one year old, last otitis four months prior), chicken pox (two months prior), giardiasis and a complete series of immunizations (including MMR at eighteen months). Her mother and maternal uncle have atopic histories. The review of systems was negative for emesis, diarrhea, sore throat, cough, chest pain, joint pain and rhinorrhea.

Admitting vital signs were: temperature 101.8° F; blood pressure, 110/78 mm Hg; pulse, 100 bpm; and respirations, 20/min. A complete physical exam was remarkable for a "mildly toxic" appearance; urticaria, erythematous dusky red plaques with target lesions that covered her entire body, including palms and soles and excluding her scalp, a positive Nikolsky's sign; "strawberry tongue," mucosal erosions on gums, and mild pharyngeal erythema; a vesicular lesion on her left eye; and a red urethral meatus. Her chest X-ray and EKG were normal. A sinus series showed left maxillary sinus thickening. Her leukocyte count was 6100/ul and her erythrocyte sedimentation rate and AST were mildly elevated at 24 mm/hr and 55 IU, respectively. Hemoglobin, hematocrit, urinalysis, ALT, C3 and C4 were all within normal limits. The Monospot, RF, ASO, ANA, nasopharyngeal viral culture,

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blood culture and stool guaiac were negative. Stool sent for ova and parasites was positive for *Giardia lamblia*.

The consulting dermatologist (Rudolf R. Roth, M.D.) discovered the same physical findings, but felt that this child had the more serious form of EM, Stevens-Johnson syndrome. Treatment was purely supportive and consisted of IV fluids with increased oral fluid intake. By the third hospital day the lesions had spread to the scalp, but the child was much more active, her appetite had increased, she was afebrile and her skin lesions had become more discrete (Figure 1). She was subsequently discharged on Furoxone (furozolidone), for giardiasis. Her ophthalmologist (Griffith Steiner, Robert W. Arnold, M.D.) found conjunctival injection in her left eye only without any bullous or erosive lesions or conjunctival follicles or papules (Figure 2).

Approximately two and one-half weeks after the onset of this illness the effected skin began to peel significantly. This was especially true of the palms and soles which were described as "peeling like bananas." At three and one-half weeks the peeling was slowing down with disappearance of most of the lesions. Reddened skin remained beneath the more active peeling areas on her arms, legs, feet and hands. Gum lesions, though reduced in number, were still painful to touch. Her activity level had returned to normal. Five months after the initial episode, no rash occurred and her eye examination was normal though she reportedly bit the muscle of her lower lip due to pruritus.



Figure 1. Skin lesions of Stevens-Johnson Syndrome. Shown are the resolving skin lesions on day seven of this patient's illness. Note the acral distribution including the palms (soles also involved, but not seen in this photograph).

## DISCUSSION

We suspect this is the first reported case of SJS due to salmon berries. The combined existence of 1) erosive lesions on two or more mucosal surfaces, 2) systemic toxicity (malaise, fever and prostration) and 3) EM/target lesions defines this illness as the major form of EM, Stevens-Johnson Syndrome.<sup>1</sup> Additional support for this diagnosis includes the mildly elevated ESR and AST, the acral distribution of lesions, and the combined involvement of urethral, conjunctival and oral mucosa. A skin biopsy was deemed unnecessary due to the classic presentation of this illness. The minor involvement of internal organs, i.e. mild elevation of one

liver enzyme, and the lack of secondary infections, the primary cause of fatality in this disease,<sup>(5)</sup> indicates that this was a mild case of SJS.

Although we feel that this case of SJS can be attributed to the ingestion of salmon berries, four alternative causes could be suggested by the patient's history.

Herpes simplex virus is very commonly associated with SJS<sup>(1-8)</sup> and varicella, a similar virus, has been listed as a minor association.<sup>(1-3)</sup> This patient had chicken pox which had resolved one month prior to the onset of this illness. In addition, there was no viral prodrome as is generally the case with herpes and SJS.

In Israel in 1967, a mild form of SJS was reported as being caused by measles vaccination<sup>(9)</sup>. This patient had received an MMR shot, but this was at eighteen months of age.

The third alternative association is with frequent bacterial infections<sup>(1)</sup>. This patient has had a significant history of recurrent otitis media that resulted in placement of tubes at age one year. Her last episode of otitis resolved four months prior to this illness, however, and was determined to be allergic in nature. Supporting this alternative is the finding of an occult sinusitis by X-ray. Sinusitis is commonly associated with otitis, but the patient was asymptomatic and prodromal symptoms are expected in SJS secondary to bacterial infections.

The fourth possible association is with parasites. Our patient was infected with *Giardia* at the time of her illness, but *Trichomonas* is the only parasite listed as being associated with EM<sup>(2-4)</sup> and she has been infected with *Giardia* a number of times without this type of response.

At the forefront in the hunt for the etiology of SJS, as well as EM, is some kind of hypersensitivity disorder. The hypothesized disorder is "of skin and mucous membranes and is mediated by deposition of circulating immune complexes in the superficial microvasculature."<sup>(6)</sup> It is felt by some that these complexes are caused by a diverse group of agents including viral and drug "antigens"<sup>(6-8)</sup> and that such a reaction is patient dependent, not antigen dependent.

Two separate studies found an allergic predisposition in 31%<sup>(1)</sup> and 34%<sup>(8)</sup> of the patients. Our patient has a positive atopic family history and a personal history of seasonal allergic illness. Combining the knowledge of an allergic predisposition in our patient, a minor association of SJS with certain foods and the





Figure 2. Ocular manifestation of Stevens-Johnson Syndrome. Shown in the conjunctival injection that is common with Stevens-Johnson syndrome (left eye only in this case). Vesicular lesions of the conjunctiva, signifying more serious disease, were seen in this case, but resolved between day four and day seven. Also note palmar involvement.

sudden onset of this illness following a second and more significant exposure to the berry, in the absence of medications or recent infections more commonly associated with SJS, we propose that this child's illness was a hypersensitivity reaction caused by ingestion of salmon berries.

## SUMMARY

A case of Stevens-Johnson syndrome in a four-year-old girl requiring hospitalization and intensive supportive therapy following the ingestion of salmon berries (*Rubus spectabilis*) is reported. We feel that the berry was the cause of this illness and that the underlying pathogenesis was an immediate hypersensitivity reaction. The significance of this finding is two-fold. First of all, an awareness of this causal relationship can provide a physician with the ability to prevent the inevitable recurrence of this disease due to continued ingestion. Secondly, this case provides further evidence to support hypersensitivity reactions as a major category in the etiology of erythema multiforme and Stevens-Johnson syndrome.

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# Trauma Care in Alaska

Mark S. Johnson, M.P.A.<sup>(1)</sup>  
 John Hall, M.D., FACEP  
 Thomas D. Scott, M.A.  
 Steve O'Connor, MICP  
 Steven Kilkenny, M.D., FACS

In 1988, the State Advisory Council on Emergency Medical Services appointed a subcommittee to study trauma care in Alaska and to develop recommendations to improve Alaska's trauma care system. Members included Mark S. Johnson, Chief of the Emergency Medical Services Section, Department of Health and Social Services; Steve Kilkenny, M.D., Chairman of the American College of Surgeons Committee on Trauma, Alaska Chapter; John Hall, M.D., State EMS Medical Director; Thomas D. Scott, Executive Director, Southern Region Emergency Medical Services Council, Inc.; and Steven O'Connor, MICP, Chairman of the State Advisory Council on EMS.

Early in 1989, this subcommittee developed survey questionnaires on trauma care in Alaska which were sent to all surgeons and emergency medicine physicians listed in the Alaska State Medical Association Directory, plus all ambulance service medical directors, and all hospital administrators in Alaska. Although many of the same questions were asked of all target groups, some additional questions were added for each group.

A summary of the numbers of surveys mailed and returned is provided below.

## TRAUMA SURVEYS

Participants: EMS Medical Directors, Surgeons, Emergency Medicine Physicians, and Hospital Administrators

1. Would you support development of a statewide trauma registry?

	Yes	No	Don't Know or No Answer
Surgeons	20	6	4
Emergency Medicine Physicians	9	1	0
EMS Medical Directors	16	1	4
Hospital Administrators	15	1	1
<b>TOTALS</b>	<b>60</b>	<b>9</b>	<b>9</b>

Comments:

- \* Yes, we are participating already. 2
- \* The problem of whether a registry creates additional liability problems needs to be addressed.

Figure 1.

Target Group	No. of Surveys Mailed	No. of Surveys Returned	%
Surgeons	93	30	32%
Emergency Medicine Physicians	35	10	29%
EMS Medical Directors*	43	21	49%
Hospital Administrators	25	17	68%
<b>TOTAL</b>	<b>196</b>	<b>78</b>	<b>40%</b>

\* These were sent to EMS Medical Directors who were not also Emergency Medicine Physicians.

The tabulated responses of these surveys are provided on the following pages, along with the summaries of written comments received.

- \* Yes, to keep track of data so that public education and safety can be improved, to determine target populations.

(1)Coordinator/Section Chief, Emergency Medical Services Section, Division of Public Health, Department of Health & Social Services, P.O. Box H-06C, Juneau, Alaska 99811.



- \* We do not know much about referral centers - someone should get the info.
- \* Not sure what is involved - gather statistics.
- \* The Alaska Epidemiology of trauma is well documented. What is the value of such a register?
- \* Why? I can tell you what our problems are without spending money.
- \* Yes, if involved trauma hospital is financially supported to provide this service.
- \* I find the trauma score difficult to work with.
- \* What is the paperwork required?
- \* Nice idea but excess paperwork for not much concrete return to me.
- \* Need the info to know how we are doing.
- \* This is one of many things.
- \* Funding is always a problem, I'm not in favor of state grants.
- \* Largely pointless effort. Don't waste money on what will be purely a statistical effort. If you're to spend money, spend it on direct patient care.
- \* One for the numbers.
- \* Central to improving trauma care in Alaska.
- \* I think this would promote the politics of trauma (fund raising, recognition, etc.), but don't see it making any helpful contribution to Sitka.
- \* See no problem.

	<u>Yes</u>	<u>No</u>	<u>No Answer</u>
Surgeons	3	23	4
Emergency Medicine			
Physicians	2	8	0
EMS Medical Directors	2	19	0
<b>TOTALS</b>	<b>7</b>	<b>50</b>	<b>4</b>

5.a. The American College of Surgeons Committee on Trauma suggests that successful completion of the ATLS course is considered an indicator of commitment to trauma care. Do you agree with this?

	<u>Yes</u>	<u>No</u>	<u>Don't Know or No Answer</u>
Surgeons	12	14	4
Emergency Medicine			
Physicians	7	3	0
EMS Medical Directors	18	2	1
<b>TOTALS</b>	<b>37</b>	<b>19</b>	<b>5</b>

Comments:

- \* A course every four years is only a minor commitment.
- \* Agree, for non-surgeons.
- \* This is one of many things.
- \* Inappropriate
- \* An indicator, surely not the only one.
- \* But it is not the sole indicator and should not be a qualifying criterion.

2. Are you board certified.

	<u>Yes</u>	<u>No</u>	<u>No Answer</u>
Surgeons	22	2	6
Emergency Medicine			
Physicians	6	2	2
EMS Medical Directors	15	6	0
<b>TOTALS</b>	<b>43</b>	<b>10</b>	<b>8</b>

3. Have you taken the American College of Surgeons Advance Trauma Life Support Course?

	<u>Yes</u>	<u>No</u>	<u>No Answer</u>
Surgeons	10	18	2
Emergency Medicine			
Physicians	9	1	0
EMS Medical Directors	14	7	0
<b>TOTALS</b>	<b>33</b>	<b>26</b>	<b>2</b>

4. Are you an ATLS instructor?

5.b. If not, do you have any suggestions for other indicators of commitment to trauma care?

- \* Reading a correspondence course, emergency medicine residency, active role as medical director of EMS system, and preceptorship in a trauma department.
- \* EMT instructor certification.
- \* Training and/or current job.
- \* Actually doing it.
- \* Surgery residency.
- \* Proof of other pertinent CME in trauma.
- \* I think it is an indicator but also the number of hours spent on recertifying and in direct care can also be indicators.
- \* 1) Regular work in an EMS. 2) Participation in ambulance services 3) Many forms of CME. 4) Association with referral physicians.

- \* Practicing surgeon dealing with trauma.
- \* EMS system involvement, i.e. EMS teaching, support of EMS training, EMS symposium, EMS sponsorship.
- \* Volume of cases treated with good outcomes.
- \* On site coordinated CME on trauma issues on a regular basis.
- \* Observation of results, (3).
- \* Consistent and responsible care for trauma patients.
- \* Certainly there are excellent trauma surgeons who have not taken the (ATLS) course. There may be some who could teach the course and yet have not taken it.
- \* Level of involvement in treatment of trauma coming through the ERs.
- \* The courses are always on my Sabbath (Saturday). Thus because I do not take part does not mean I am not committed.
- \* Those people who are willing to accept unassigned ER trauma patients are committed.
- \* CME on trauma management, or other courses (3).
- \* In remote facilities in Alaska, physicians must be ready to deal with severe trauma frequently whether committed to it or not.
- \* Taking the ATLS course means you want to do a good job for the patient. that's the best reason for taking the course.
- \* Practical experience.
- \* Not familiar with ATLS.
- \* Yes, being in the trauma room taking care of patients.
- \* Suggest local (in Alaska) effort to make such ATLS course available here.
- \* Most people I know in my community who are ATLS certified are poor at the management of trauma. They seem to lack common sense in patient care.
- \* I think you could take the course and not be committed - may just need CME. I think people who are committed probably take the course not vice versa.
- \* Willingness to take care of trauma victims. Demonstrated skill in taking care of trauma victims.

6.a. The State Advisory Council on Emergency Medical Services has recommended that there should be an ACS Level II trauma center in Anchorage. Do you agree with this?

	Yes	No	Don't Know or No Answer
Surgeons	13	7	10
Emergency Medicine Physicians	5	2	3
EMS Medical Directors	10	6	5
Hospital Administrators	12	4	1
<b>TOTALS</b>	<b>40</b>	<b>19</b>	<b>19</b>

Comments:

- \* We can generate the volume for it. Bassett has had enough cases requiring it last year.
- \* There is a general surgeon on call 24 hours a day to provide necessary services. All on-call physicians are available within 20 minutes of a request for services.
- \* Probably, but don't count on 100% support from S.E. Alaska because of Seattle's accessibility.
- \* Any financial assistance needs to be spread over the entire state.
- \* Because of the medevac travel time to Seattle and the higher incidence of trauma in Alaska, we need a Level II trauma center.
- \* However, southeast, especially Bartlett, would probably continue to use Seattle the majority of the time due to professional relationships that are already established. Availability of flights out would play a major role.
- \* Our emergency room is staffed 24 hours a day by Board Certified Emergency Care Physicians. There is not enough trauma within the City of Anchorage to justify the time and expense of a trauma team. Referrals from outside Anchorage allow time to prepare for services while the patient is being transferred.
- \* Sufficient population base to justify it - should be associated with existing hospitals.
- \* The first hour from the time of trauma is critical. Anchorage is more than an hour from the majority of the state.
- \* Borderline numbers, but cost of transport elsewhere is prohibitive.
- \* Yes, if they use already existing facilities and staff, etc.
- \* At least explore possibility.
- \* It would adversely affect admission patterns to those hospitals in Anchorage who do not have the trauma center.



- \* I cannot evaluate. I need a good referral source. The present system meets my needs.
- \* Transport to Seattle will worsen results (by delay) in some cases.
- \* If there is the volume, one will open.
- \* Medical resources are being stretched to the point that it is dumb for both hospitals to try to fulfill the role of a fully staffed center.
- \* Don't believe commitment in community for this from surgical MDs. Not sure of enough volume. Hard to support cost from IHS perspective.
- \* I don't know the meaning or implications of this.
- \* In a sense, Providence Hospital already is a de facto trauma center II.
- \* Can't answer - I'm not informed on how well the current system works in Anchorage or what the needs are.
- \* Too divisive politically.
- \* Might help Anchorage - Irrelevant to patients being flow in.
- \* Decision is best made by trauma surgeons in Anchorage.
- \* Yes, if state supports it with finding.
- \* I believe Level II is needed.
- \* Need to know more of the ramifications - sometimes this is more a necessary endeavor for a hospital - than altruistic patient care.
- \* Find out first if there are enough cases to keep two - three trauma surgeons proficient - i.e. 50 per year per surgeon.
- \* The multiple severely injured patient requires a specially organized team always ready to go into action instantly for true effectiveness.
- \* I am not familiar with the term.
- \* As related to burns, Providence Hospital's thermal unit should be the resource for the state's treatment.
- \* Typical bullshit statement - politics rearing its ugly head.
- \* I think major trauma should go to both Humana and Providence.
- \* Because of local incidence of injury, such a center is needed as much in Fairbanks as in Anchorage. Do not forget that weather closure of the airports in Anchorage makes it a poor choice for a sole center.
- \* Yes, if they can do it well.
- \* It would burden the hospital with more costs to maintain in-house physicians for a low volume situation. I don't think it would be cost efficient and would tick off private practice surgeons.

- \* I am not familiar with Anchorage's needs.
- \* Not enough volume to justify it.
- \* Unsure what changes that involves.
- \* I say yes as I think it would overall lead to better patient care. At the present time, I don't think it is financially or politically possible.
- \* Where I now work there is a trauma service and the superb care and speed of treatment convinces me a trauma team is an excellent idea.
- \* Agree in principle but how to establish surgical cooperation? Also, is there a demonstrated need?

6.b. The American College of Surgeons says that only 5% - 10% of injury patients need to go to a Level I or Level II trauma center, or about 450 - 1000 per million people. Using this estimate, about 250 - 500 injury patients per year in Alaska need the services of a trauma center. Thus, a community the size of Anchorage, with statewide referrals, may be just large enough to justify one Level II trauma center. Do you agree with this?

	Yes	No	Don't Know or No Answer
Surgeons	10	10	10
Emergency Medicine Physicians	5	3	2
EMS Medical Directors	9	5	7
Hospital Administrators	11	5	1
TOTAL	35	23	20

Comments:

- \* Both private hospitals in Anchorage have the ability to treat trauma patients. To deny one hospital on-going clinical expertise of on-going care of trauma victims would decrease currently available hospital resources.
- \* We can generate the volume for one Level II. Military exercises produce severe casualties and incalculable amounts of victims.
- \* Yes, however S.E. Alaska is closer to Seattle for many of these patients.
- \* Yes, only if there are sufficient numbers.
- \* The need is there, the availability should be there also.
- \* We transport to Harborview in Seattle.
- \* Also I expect Alaska rates are higher.
- \* S.E. uses Seattle for trauma referrals and probably will continue.

- \* Too small a community - The center would wind up either subsidized or the cost per patient would be very high.
  - \* Impractical for southeast Alaska (3).
  - \* I think Anchorage and Alaska have more per capita trauma victims than ACS standards are based on.
  - \* I don't think there are that many trauma cases, especially since the down turn in the economy.
  - \* Silly deductions from above. Trauma rates in Alaska are much higher than national averages, and transportation problems are unique.
  - \* Yes, but it must not be the only such center - Fairbanks, because it's open and accessible and closer to most of the trauma, should qualify.
  - \* I think major trauma should go to both Humana and Providence.
  - \* Your current facilities there should be more than adequate if effectively run, have conscientious docs, and most importantly, good EMT Medevac people getting the injured to the hospital in a timely fashion with appropriate IVs, endotracheal tubes, etc.
  - \* Yes, as related to burns at least. I am not able to speak for other trauma.
  - \* The small number of patients involved might make the cost too high. The southeastern communities tend to refer to Seattle. It might still be feasible to organize a trauma center.
  - \* Both Anchorage hospitals need that capability. A number of orthopedic surgeons on trauma call do not like to practice at Providence Hospital.
  - \* Anchorage is too distant from the whole state.
  - \* You can't get statewide referral to one center, and there is no center at present.
  - \* Distances are so large here that we need to think of better rural care first.
  - \* Doubt it can be economically justified.
  - \* Because of the distances, it may not be practical.
  - \* How are you going to get and justify in-house, 24 hour general surgery, neurosurgery, and orthopedics? Also 24 hour in-house OR staff?
  - \* To date, the answer is all hospitals do the very best possible with trauma. We have no measures to know how we do.
  - \* Yes, but someone's going to need to pay for it.
  - \* Transport times make this estimate of need inflated.
7. Do you think some of our smaller communities, such as Juneau or Fairbanks, should have an ACS Level III trauma center?

	<u>Yes</u>	<u>No</u>	<u>Don't Know or No Answer</u>
Surgeons	15	5	10
Emergency Medicine Physicians	5	1	4
EMS Medical Directors	11	4	6
Hospital Administrators	8	6	3
TOTAL	39	16	23

Comments:

- \* Would prefer Level IV.
- \* It may be more cost effective and less duplication of equipment to send these patients to Seattle or Anchorage respectively, especially in light of declining occupancy rates. The nursing shortage must be considered, however.
- \* Yes, accessibility, and sufficient population base for it.
- \* Soldotna should also be ready.
- \* 6th Infantry Division, the greatest pool of soldiers, is moving up here.
- \* Major trauma is stabilized and transported by medevac to urban areas. With the Alaska population spread over such a large geographic area, the ability to stabilize and medevac patients to urban areas is important to the health care of Alaskans.
- \* Smaller communities is a relative term. they are the 2nd and 3rd cities in the state.
- \* It is not feasible to restrict each community.
- \* Inadequate numbers to justify it.
- \* Yes, if they already have the staff and facilities.
- \* Not sure - at least explore possibility.
- \* Too small communities - cost would be too high.
- \* What are the alternatives? Obviously, they have to do trauma care.
- \* Weather and distance make this very desirable.
- \* What is involved? Level IV looks like Level III to me.
- \* You do what you can with staff that's available at the time.
- \* If there were the volume, one would exist.
- \* Geographic distances justify it.
- \* They should have Level II.
- \* Need data to assess.
- \* Perhaps all should be Level III?
- \* Both communities have full range of service except neurosurgery.
- \* I do think that southeast Alaska needs a higher level of care, but who will staff it? Are you suggesting the state fund it?



- \* Yes, due to inaccessibility.
- \* Trauma cases are likely to go to these places first. Better care initially would improve the outcome.
- \* Ours in Fairbanks is fairly close to Level III now as evidenced by several very successful mass casualty experiences over the last 10 years with dramatic turnout by all medical and hospital personnel, EMTs, etc.
- \* Juneau - Level III - Fairbanks - Level II.
- \* Yes, many do - Fairbanks, Juneau, Palmer.
- \* I think Palmer essentially has Level III capability and we are closest to Anchorage. I cannot fathom being in an isolated area with less capability than we have here.
- \* Juneau lacks physician numbers.
- \* Yes, Fairbanks, because of its central location, and because of its potentially large service area (2).

8. The ACS Committee on Trauma recommends that field triage criteria be used to determine which patients should be taken to a trauma center. For trauma centers without in-house trauma surgical teams, field triage criteria based on reports from EMTs or paramedics in the field, are recommended to be used by the Emergency Department physician to activate the on-call trauma surgical team prior to patient arrival at the hospital. Do you agree with this?

	<u>Yes</u>	<u>No</u>	<u>Don't Know or No Answer</u>
Surgeons	15	5	10
Emergency Medicine Physicians	8	1	1
EMS Medical Directors	16	1	4
<b>TOTALS</b>	<b>39</b>	<b>7</b>	<b>15</b>

Comments:

- \* Should be based on ER physicians assessing the call and the callers.
- \* Unreliability of degree of injury (estimate). Premature/inappropriate call-in of several busy (sleep deprived in the summer) MDs for a 30-40 minute drive.
- \* Yes, but only with the scope of the military and IHSs ability to pay and cooperate.
- \* We already do.
- \* No, each hospital is capable of deciding what its current capabilities are. To put that on a checklist would be self-defeating.

- \* Are you referring to a rural village and a community hospital or metropolitan Anchorage? The answer could vary.
- \* I don't know. We don't have a "trauma surgical team" other than our regular physicians. Dealing with cases as they come up has been very adequate for now.
- \* In general, the EMTs are not up to the task and I would think that EMTs and paramedics would not care to assume the responsibility of such decision making.
- \* The ACS Committee on Trauma obviously has no idea of life in Alaska with its distances, weather, etc. That has been the system in place in Fairbanks for 15 years and it works.
- \* Who calls should be decided by the trauma - ED in advance. The ED physician is in the best position to judge whether to call in the trauma team for the situation given.
- \* Too high error rate on field triage.
- \* A significant number of the major trauma occurs in remote areas - you should have plenty of time to activate the team in most instances, if the patient is not DOA.

9. Do you believe that prehospital trauma care is good in your area?

	<u>Yes</u>	<u>No</u>	<u>Don't Know or No Answer</u>
Surgeons	23	1	6
Emergency Medicine Physicians	8	0	2
EMS Medical Directors	15	3	3
<b>TOTALS</b>	<b>46</b>	<b>4</b>	<b>11</b>

Comments:

- \* If not, what suggestions do you have to improve it?
- \* Good, but not perfect. Evidently the military disaster in Fairbanks was a real disaster in field management.
- \* They should be trained to intubate.
- \* The best.
- \* Not optimal because medical control of certain ambulance services is not preventing excessive time-consuming "stabilization" in the field by some strong willed paramedics. Better monitoring of medical control and

strengthening its influence is needed (Fairbanks).

- \* But weather problems, need better airstrips, get Friendship Air out of bankruptcy, adequately fund community health aides.
- \* Don't see enough anymore to have an opinion. It was good 5-6 years ago.
- \* Yes, as related to burns.
- \* It is excellent.

10. Have you participated in public education programs regarding injuries?

	<u>Yes</u>	<u>No</u>	<u>No Answer</u>
Surgeons	21	7	2
Emergency Medicine Physicians	5	5	0
EMS Medical Directors	9	12	0
<b>TOTALS</b>	<b>35</b>	<b>24</b>	<b>2</b>

If yes, approximately how often?

- \* Three or four times a year (3)
- \* Yearly (2)
- \* Every six months
- \* Two or three times a year
- \* Bimonthly for five years
- \* One or two times a year
- \* Monthly

11.a. Is your hospital trauma service directed by a general surgeon with special expertise in the care of injured patients?

	<u>Yes</u>	<u>No</u>	<u>No Answer</u>
Surgeons	7	23	0
Emergency Medicine Physicians	2	8	0
Hospital Administrators (Anchorage)	0	0	2
<b>TOTALS</b>	<b>9</b>	<b>31</b>	<b>2</b>

11.b. If not, do you think it should be?

	<u>Yes</u>	<u>No</u>	<u>Don't Know or No Answer</u>
Surgeons	8	6	16
Emergency Medicine Physicians	7	2	1
Hospital Administrators (Anchorage)	0	1	1
<b>TOTALS</b>	<b>15</b>	<b>9</b>	<b>18</b>

Comments:

- \* It has been at times difficult to even get a surgeon to take call, let alone lead a "trauma team".
- \* Believe it should be joint between general surgery and emergency medicine.
- \* We have no definite trauma service or one person actively organizing a trauma response team or protocol.
- \* We do not have a trauma service as such. If we did I agree it should be directed by a surgeon who also has a special interest in care of injured patients.
- \* ER physician coordinates all other responders on call at home. Not feasible to have in-house coverage - general surgeons are admitting MDs.

12. Does your hospital have an identified trauma care team providing a coordinated effort for patients with multiple system injuries (e.g. trauma teams usually consist of an emergency physician, a general surgeon, an anesthesiologist, an orthopedic surgeon, and a medical consultant working together simultaneously on a multiple system injury patient with a general surgeon as a team leader.)

	<u>Yes</u>	<u>No</u>	<u>Don't Know or No Answer</u>
Surgeons	7	20	3
Emergency Medicine Physicians	2	8	0
Hospital Administrators (Anchorage)	0	2	0
<b>TOTALS</b>	<b>9</b>	<b>30</b>	<b>3</b>

Comment:

- \* On call at home.

13. If you do not have an organized trauma team, do you think a trauma team should be developed?

	<u>Yes</u>	<u>No</u>	<u>Don't Know or No Answer</u>
Surgeons	8	6	16
Emergency Medicine Physicians	7	1	2
Hospital Administrators (Anchorage)	0	1	1
<b>TOTALS</b>	<b>15</b>	<b>8</b>	<b>19</b>

Comments:

- \* Our emergency room is staffed 24 hours a day by Board Certified Emergency Care Physicians.



There is not enough trauma within the City of Anchorage to justify the time and expense of a trauma team. Referrals from outside Anchorage allow time to prepare for services while the patient is being transferred.

- \* But territorial bickering would preclude an organized effort to piece together a team on the case referrals and we determine clinics affiliation of patients. God help me if I give a trauma patient to the "wrong" surgeon.
- \* Not feasible at this time, not enough volume.
- \* Limited physician population makes it impractical.

14. Please list any specific suggestions you have for improving trauma care in Alaska.

- \* Have funds appropriated for initial triage and rehabilitation of patients, including trauma fees. Funding for education courses related to trauma care.
- \* Juneau needs to develop a Level III trauma center with a Life Flight-helicopter system for all of S.E. Alaska.
- \* Bush hospitals need help with training staff.
- \* 1) spend less money on prehospital care; 2) spend more money on in-hospital care (obtaining surgical coverage).
- \* More dedicated young, hungry surgeons.
- \* Continue training and funding of training for prehospital providers.
- \* I believe one trauma center in Anchorage and other smaller centers in Juneau, Fairbanks, Kenai would be ideal. Anchorage can only support one center. Since Providence has more secondary facilities, it would seem the logical choice.
- \* Funding!!!
- \* Anchorage ambulances need to meet the planes as they land - this business of waiting for us to call on the ground is wrong. It is also hard to get neurosurgical advice quickly.
- \* Data collection (i.e. trauma registry) before making decisions.
- \* The inter-hospital transfer criteria is crude. The triage decision scheme would result in over evacuation if applied in my setting. The "golden hour" is gone here before evacuation is possible. Please review use and effectiveness of MAST pants. I feel there is growing literature condemning their usefulness.
- \* Need better highway coverage.
- \* Your questions would be answered differently

in different parts of the state with different medical and transport resources. What might be appropriate just outside of Anchorage doesn't pertain to the bush and vice versa.

- \* Continued effort at ensuring rapid communications between EMTs and hospitals and between hospitals and referral centers.
- \* We need to keep working on skills of prehospital and peripheral hospital personnel.
- \* 1) Don't cut Coast Guard funding (federal Level). 2) hypothermia records center for gathering information and doing studies. 3) ATLS course to be available in certain towns outside Anchorage and Fairbanks.
- \* More prevention. Programs aimed at kids about 3 wheeler safety, etc.
- \* Looks to me as though this whole questionnaire is aimed at getting a Level II center in Anchorage, so why waste our time with the questionnaire? This is not going to make ANY DIFFERENCE to immediate trauma care in the rest of the state.
- \* Increase proficiency of EMS systems.
- \* Improve proficiency of all hospitals to handle trauma, not to send it away.
- \* Get some non-Anchorage people on state-wide committees.
- \* Education for planes/boat safety, etc. People don't die of trauma in this borough because of imperfect health care. They die here (or drown in S.E. Alaska) because of poor or impaired judgment, or inattention to common safety standards like speed limits, alcohol limits, weather, etc.
- \* I think the care in Fairbanks is outstanding. I don't think there is a need for a more formalized trauma center designation.
- \* Use of centralized center (burns in my case).
- \* Continue to make training available for persons serving in remote areas.
- \* Need to reduce mobilization time of MAST, military patient transport systems.
- \* Level II trauma center needed in Anchorage with statewide referral. Need trauma registry to include all trauma statewide.
- \* S.E. could deal with its own trauma in-state, if Juneau could run a medevac service and offer some neurosurgical expertise.
- \* Active tort reform efforts in the legislature are essential if trauma care is to be advanced rather than retarded with the passage of time into the 21st century - only eleven years hence.
- \* Better communication between Fairbanks and Anchorage with less turf guarding.
- \* The age old recommendation of better education to avoid trauma.

## HOSPITAL ADMINISTRATORS

15. Do you think the Advisory Council on EMS should establish Alaska specific criteria for a Level IV trauma stabilization facility?

<u>Yes</u>	<u>No</u>	<u>Don't Know or No Answer</u>
13	3	1

Comments:

- \* Yes, due to arrival of the 6th Infantry Division?
- \* We are presently indicating we are a Level III category. According to your ACS criteria, we are not. We certainly need a category as we do save lives.
- \* Would be helpful to know statistics of areas and what effect this would have on those not designated.
- \* Someone needs to do it. This is an especially important concept for Alaska with its large area and small regional populations.
- \* The numerical designation is immaterial, the existing ability to provide and maintain resources will determine what can be done.
- \* Yes, because of transport time, weather conditions, and critical hour.
- \* A trauma registry is needed.
- \* Yes, because hospitals need help with training and this would be a start.

16. Should the Advisory Council on EMS explore ways to designate Level II, Level III, and possibly Level IV trauma facilities in Alaska.

<u>Yes</u>	<u>No</u>	<u>Don't Know or No Answer</u>
12	4	1

Comments:

- \* The established guidelines seem to be appropriate.
- \* If certain facilities are designated, would this interfere or jeopardize reimbursement to those hospitals not designated even though the services are available and appropriate?
- \* Please use input to have standards that are reasonable for our rural communities.
- \* Get administrators through the Health Association of Alaska involved.
- \* To designate specific hospitals as trauma centers would decrease the level of care in other facilities. Since Alaska is such a large geographic area,

the designation may actually reduce the availability of care.

- \* Not for cities smaller than Juneau.
- \* Funding would be a problem.
- \* We have the facilities and staff.
- \* This will need to be done down the road anyway. To do it now will make it easier.
- \* At least explore possibility.
- \* Possibly Level III or IV would be worth exploring the feasibility as to whether a community could support such a trauma center.

Hospital administrators responding to the survey:

1. Alaska Native Medical Center - Anchorage
2. Bartlett Memorial Hospital - Juneau
3. Bassett Army Hospital - Fairbanks
4. Central Peninsula Hospital - Soldotna
5. Cordova Community Hospital
6. Fairbanks Memorial Hospital
7. Humana Hospital Alaska - Anchorage
8. Ketchikan General Hospital
9. Kodiak Island Hospital
10. Maniilaq Medical Center - Kotzebue
11. Petersburg General Hospital
12. Providence Hospital - Anchorage
13. Seward General Hospital
14. Sitka Community Hospital
15. South Peninsula Hospital - Homer
16. Wrangell General Hospital
17. Yukon Kuskokwim Delta Regional Hospital - Bethel

## SURGEONS

17. What is your surgical specialty?

	<u># Responding</u>	<u>Total # in Alaska*</u>	<u>%</u>
General Surgery	13	28	46%
General, Vascular & Thoracic Surgery	4	12	33%
Orthopedics	11	42	26%
Otolaryngology			
Head & Neck	1	9	11%
Plastic & Reconstructive	1	6	17%
Neurologic	0	3	0%
<b>TOTAL</b>	<b>30</b>	<b>100</b>	<b>30%</b>

\* Based on those listed in the Alaska State Medical Association Medical Directory, excluding military.



18.a. Do you participate in the development of trauma protocols, trauma teams, trauma call rosters, and trauma rounds in your hospital?

<u>Yes</u>	<u>No</u>	<u>No Answer</u>
12	16	2

Comments: retired 1.

18.b. If not, which of the above do you participate in?

- \* trauma rounds
- \* trauma call roster
- \* no such theme exists in Anchorage
- \* I have done so in the past
- \* burn related
- \* call roster
- \* protocols, reviews, call rosters.

19. Do you have combat experience as a surgeon?

<u>Yes</u>	<u>No</u>	<u>No Answer</u>
3	23	4

Comments:

- \* Parkland Hospital in Dallas, Texas was as busy as Da Nang.

20. Have you had surgical training in an active trauma service?

<u>Yes</u>	<u>No</u>	<u>No Answer</u>
21	5	4

21. Did you have a formal trauma fellowship?

<u>Yes</u>	<u>No</u>	<u>No Answer</u>
1	26	3

Comments:

- \* Trauma staff x 4 years.

22. Have you published any research articles on trauma care?

<u>Yes</u>	<u>No</u>	<u>No Answer</u>
1	27	2

23 a. Have you made a presentation on trauma care to other physicians, nurses, or EMTs and paramedics?

<u>Yes</u>	<u>No</u>	<u>No Answer</u>
20	8	2

23.b. If yes, approximately how often?

* None in last five years	* 1-2/year
* 4 to 6 times a year	* Average one per year
* 1 yearly on burns	* 1 every 2 years
* occasionally	* None recently
* several times every year	* Annually
* every six months	* More formerly than now

24. Are you a member of the Committee on Trauma of the American College of Surgeons:

<u>Yes</u>	<u>No</u>	<u>No Answer</u>
2	25	3

25. Are you a member of the American Association for the Surgery of Trauma?

<u>Yes</u>	<u>No</u>	<u>No Answer</u>
0	27	3

26. Are you a member of the American Burn Association?

<u>Yes</u>	<u>No</u>	<u>No Answer</u>
1	26	3

27.a. Are you a member of any other trauma organization of a surgery specialty?

<u>Yes</u>	<u>No</u>	<u>No Answer</u>
1	23	6

Comments:

- \* There is none in my specialty and probably not a need either.

27.b. If so, what is the name of the organization(s)?

- \* American Academy of Orthopedic Surgeons

28. Approximately how many trauma surgeries have you performed within the past year?

0	=	1
< 10	=	3
11 - 20	=	5
21 - 30	=	7
> 30	=	7
No answer	=	7

## DISCUSSION

Although a 40 percent response does not constitute a scientifically valid survey, it is probably significant enough to provide some reasonably reliable insights into the status of, and opinions about, trauma care in Alaska.

## TRAUMA REGISTER

There appears to be widespread support, among those responding to the survey, for development of a statewide trauma register. The trauma register pilot project, in which several hospitals participated, collected information on traumatic injury patients who are declared dead in the emergency department, are admitted to the hospital, or are transferred to a higher level trauma care facility. Its purpose is to document the numbers, severity, and etiology of various types of injuries, and to evaluate treatment provided in both the prehospital and hospital settings. It also can be used to evaluate injury prevention programs and to document the costs of care for different types of injuries and medical procedures.

Under AS 18.23.010 - 070, the Trauma Register Review Organization, consisting of health care providers, must hold all data and information in confidence, and may not disclose it to anyone except to the extent necessary to carry out the purposes of the review organization, and is not subject to subpoena or discovery.<sup>1</sup> Therefore, the Trauma Register Review Organization can publish aggregate information and data on traumatic injuries in Alaska, but must maintain patient confidentiality. Information on treatment of individual patients can be provided to hospitals for internal review and audits of the quality of patient care.

Existing trauma register data from seven participating hospitals (Providence, Humana, Alaska Native Medical Center, Kakanak, Valley, South Peninsula, and Central Peninsula) shows a total of 1627 trauma admissions between March 1, 1987 and February 28,

1988, plus there were 31 patients who were dead on arrival (DOA) or died in the emergency departments. Within the past year 13 additional hospitals have joined the statewide trauma register system, and four more hospitals have agreed to join as soon as staff are trained.

## DESIGNATION OF TRAUMA TREATMENT FACILITIES

A somewhat smaller majority of the survey respondents favored designation of trauma centers or trauma treatment facilities in Alaska.

### LEVEL IV

Given the vast distances and long transport times in rural Alaska, rural hospitals probably should maintain at least a basic level of trauma treatment capabilities, such as Advanced Trauma Life Support (ATLS) trained physicians, and nurses with specialized trauma training.

The State of Oregon has developed a Level IV trauma facility designation for rural hospitals. A similar approach may be appropriate for Alaska. Although all rural hospitals currently must provide some level of treatment or stabilization of trauma patients before transfer to urban centers, establishing criteria for rural trauma hospitals could be a way to help ensure that minimum standards are met.

### LEVEL III

In larger communities, such as Fairbanks and possibly Juneau, the American College of Surgeons Level III Trauma Center standards seem most appropriate. In fact, by its own assessment, Fairbanks Memorial Hospital already is close to meeting ACS Level III criteria.<sup>2</sup> A majority of survey respondents supported this.

### LEVEL II

A majority of the respondents supported designation of an ACS Level II Trauma Center in Anchorage, although a large percentage were neutral. Many respondents thought that a Level II Trauma Center must have in-house trauma surgical teams 24 hours per day but, in fact, ACS criteria state, "The established trauma system should ideally ensure that the trauma surgeon will be present in the emergency department at the

<sup>1</sup> Alaska Statutes, Chapter 23. Health Care Services Information.

<sup>2</sup> Survey of Hospital Administrators, Advisory Council on EMS, Trauma Care Subcommittee, 1989.



time of the patient's arrival. When sufficient prior notification has not been possible, a designated member of the trauma team will immediately initiate the evaluation and resuscitation. Definitive surgical care must be instituted by the trauma surgeon in a timely manner that is consistent with established standards."

It is possible to meet Level II criteria with trauma surgeons on call outside of the facility, provided that field triage criteria are used to activate the trauma team prior to the patient's arrival. Inevitably, there will be times when the team is called in unnecessarily, but using strict field triage criteria, and leaving the decision to call in the team to the discretion of the on-duty emergency department physician, should keep unnecessary calls to a minimum. In any case, it is much less expensive than staffing the emergency department 24 hours a day with in-house surgical teams.

Based on ACS criteria, to be a designated trauma center the hospital must have an organized trauma service with a "trauma team - organized and directed by a general surgeon expert in and committed to care of the injured, all patients with multiple system or major injury must be initially evaluated by the trauma team, and the surgeon who will be responsible for overall care of a patient (the team leader) identified. A team approach is required for optimal care of patients with multiple-system injuries."<sup>3</sup>

## ADVANCED TRAUMA LIFE SUPPORT

Of those responding to this survey, 33 percent of the surgeons, 90 percent of the emergency medicine physicians, and 66 percent of the EMS Medical Directors reported having taken the Advanced Trauma Life

Support (ATLS) course. The committee on Trauma of the American College of Surgeons has stated that "successful completion of the American College of Surgeons ATLS course is considered an indicator of commitment to trauma care by surgeons. Ongoing involvement as an instructor is expected of trauma service directors at hospitals with a major trauma commitment."<sup>3</sup>

## CONCLUSION

Over the past several years in Alaska, trauma care probably has improved significantly in both the pre-hospital and hospital settings. An increasing number of EMTs, paramedics, nurses, mid-level practitioners, and physicians have received more sophisticated training on trauma treatment. More hospitals are staffed 24 hours a day with emergency medicine trained physicians and there has been a rapid growth of medevac and air ambulance services. However, this survey shows that many physicians and hospital administrators in Alaska see a need for further improvements in our statewide trauma system.

Over the coming months and years, the State Advisory Council on Emergency Medical Services, the State EMS Section in the Department of Health and Social Services, and the American College of Surgeons Committee on Trauma - Alaska Chapter will use this information to develop recommendations for developing a statewide trauma system which is appropriate to the unique circumstances and needs in Alaska.

<sup>3</sup> Appendix A to Hospital Resources document: Qualification of Trauma-Care Personnel, by the Committee on Trauma of the American College of Surgeons.

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# The Commitment Continues

- *To be there* when you and your patients need us — allowing Alaskans to *stay in Alaska* for their care.
- To join with you in an effective effort to improve the health care environment of our state.
- To work towards better and more efficient ways to be of service to you.



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THE COMMITMENT CONTINUES



# SURVIVING PHYSICIAN STRESS

## A Small Town View

Thomas H. Wood, M.D. <sup>(1)</sup>

They were the best of times; they were the worst of times. Charles Dickens captured a truth for all times, including the state of medicine today. Medical technology is breathtaking, medical training is rigorous and medical ethics struggles to keep up. Lives are saved, life is valued and patients are empowered to make decisions about their own health. At the same time, the pressures on physicians mount. Doctors feel that they are a scapegoat for society's wish to fly now and pay later; to have flawless care at little or no cost.

The theme of the 1991 Alaska State Medical Association convention is "*Recharging: Professional, Political and Personal*". My task is to address the personal aspects of recharging. The word "recharge" implies that one was once *charged*, and then became *discharged*. Discharging needs to be understood in order to successfully recharge.

The discharge of vital forces, of enthusiasm, of professional excitement, of the joy of life in a physician is the result of many stresses; those specific to the medical profession, those specific to the era that we live in and those stresses specific to midlife. There are also stresses specific to being a woman in medicine, which I will leave to more knowledgeable speakers.

### PROFESSION SPECIFIC STRESS

The stress specific to medicine can be further subdivided into stresses common to all physicians, stresses specific to physicians of last resort and stresses specific to physicians in small communities.

From an early age, many physicians experience pressure, subtle or otherwise, to go into medicine. Living someone else's dream is a precursor to unhappiness, should that dream turn sour. Few medical students know what they are getting themselves into. Those who do, develop an early interest in the specialties offering some shelter from high stress and unpredictable hours.

In medical school, physicians to be are filled with idealism. Right and wrong are clear. Right is Harrison's textbook, Cecil's textbook and the New England Journal of Medicine. The professor always knows the

answer (because the professor chooses the case). The patient, lacking a complicating personality, is merely a vehicle for the disease of the week.

In real life practice, we learn that human beings are not made of right angles and straight lines. We learn that much of what was right does not fit real life. We learn that many people are the product of dysfunctional families; the physician becomes the parent that the patient both loves and resents. We are surprised to learn that many people *need* the security of a respectable and reimbursable diagnosis.

The newly trained physician is shocked to discover that he or she is a marionette on a string, with the most dysfunctional patients jerking the string the hardest. Seeing a patient in the emergency room during your family supper time, because the patient lost track of time watching soap operas in the afternoon; being spit at by a drunk road-racer at 2 a.m.; or getting out of bed at 3 a.m. to sort out a narcotic addict's fictitious pain; these are not the services that the young physician envisions. Realizing that same patient could face you in a courtroom, dressed in a \$300 wardrobe and coached by a \$300 per hour lawyer is equally harsh news.

When we realize that we are resented as much as we are revered; that we are a target as much as we are trusted, we feel trapped. We are not only living our grandmother's fantasy, we are invested to our receding hairlines. More confining than any financial debt is our emotional debt. We have made a major commitment. We have accepted a contested seat in medical school. We have sacrificed friends, family, and avocation. We feel both committed and boxed in. Alternatives, other than medicine, are perceived to be a failure.

The first years as a physician require a major adjustment to the new harness that has been attached by society. Like a skittish race horse out of the chute, the new physician must settle down, adjust to the tension of the race and find his or her stride. The incentive is the newness and wonderment of it all. To be a *real* physician; to become the hero of one's youth; to be appreciated by patients; to be paid for one's knowledge and ability. This exciting stuff is the source of spiritual sustenance; but it wears thin with time. The newness wears off. The initial challenges are met and there are no new challenges as bold and tangible as transforming a medical student into a physician.

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<sup>(1)</sup>306 Excell Street, Petersburg, Alaska 99833.

Denial begins to fray. Denial is an essential ingredient in all relationships, including the relationship between a physician and the realities of his or her life. In the early years, the infatuation period, we deny that our profession will shortchange our personal needs, shortchange our spouse's needs, shortchange our children's needs and even shortchange our life expectancy. Any evidence of this truth is pushed aside with the balm of denial. We deceive ourselves into believing that this period of sacrifice is temporary. We think to ourselves, "*When my debts are paid and my career is established, it will all be different. I will show down and restore balance to my life.*" The demands never decrease; the mistress medicine never lets up; and denial begins to fail us. We are in over our heads. We are not in control of our lives; and there is no light at the end of the tunnel - or rather the light is an oncoming freight train named personal mortality.

## PHYSICIAN OF LAST RESORT

Some of the subcategories of physician stress that I mentioned earlier are more heavily represented in Alaska than in most other places. One such stress is being the physician of last resort - the physician who is at the end of the line. An example is the isolated, rural family physician who must deal with whatever walks, or is carried, through the door. With little equipment and little help, he or she must know enough of everything and be able to do enough of everything to keep the patient alive, until moved to a more narrowly trained specialist. For reasons of isolation, weather, cost and bureaucracy the transfer to help may take days. On a snowy night, the small town physician may be simultaneously caring for a woman in childbirth, a cardiac patient with complications and a patient from a vehicle accident; with no one to call in for assistance.

In a frontier state like Alaska, many specialists are physicians of last resort. They work without peers, many hours away from tertiary centers. They know the existential realization of being *it*; of being the only thing standing between the patient and death; of having nowhere to turn for help, except to whatever deity you implore at such moments. These are times of utter hollowness; of utter loneliness; of asking, "*How did I get myself into this situation? How long can I keep this up?*"

Being a frontier specialist, leaving the comfort of peers, and becoming the best at what you do in your community is to risk becoming the standard of care in your community. Locums coverage becomes difficult to find, as outside physicians in the same speciality are reluctant to take on the isolation, loneliness and breadth of responsibility that you take for granted.

## SMALL COMMUNITY MEDICINE

A related subcategory of professional stress common to Alaska is the "small town physician."

Everyone in town knows you and you know almost everything there is to know about them. This results in a lack of privacy and a level of scrutiny that can be unnerving, until it becomes familiar.

People often feel comfortable invading your family's privacy, as in the patient approaching the family table at a potluck and loudly announcing, "*Doc, I've really had a bad case of the scoots (diarrhea) lately!*"

Personal time becomes nonexistent. With fewer physicians to share calls and no emergency room to handle after hours problems, the responsibility runs 24 hours per day and 7 days per week. There is nothing so sacred that it takes priority over the call of the pager. There is no way to be free for a child's birthday party or for an overnight campout. The physician is owned by the community, is viewed as a public utility, and must learn to live with that, or get out.

Peer interaction is limited to phone calls. Patients probably appreciate physicians who speak English at all times, but it is a treat for the physician to occasionally speak medicine with a peer.

Social roles are blurred. Your best friends are also your patients. It takes a divided mind to do genital exams on best friends in the morning and then to have dinner with them in the evening.

Finally, it is hard to find replacement coverage in a small town; to find physicians willing and able to take care of the full spectrum of human beings, including obstetrics. Getting away becomes difficult, stressful and expensive. Long range planning is necessary, and attending a brother's funeral becomes an impossibility.

## ERA SPECIFIC STRESSES

In addition to the stresses specific to physicians across time, there are stresses unique to the 1980s and 90s.

In the 1950s, antibiotics were effective. The nation was affluent. The standard of health care was low tech, and costs were proportionately low. Health insurance was inexpensive. Government involvement was limited to county hospitals. Malpractice meant that the physician actually did something bad. Liability premiums were cheap. Physicians felt good about their profession and the nation felt good about them.

The rising forces of technology, consumerism and third party coverage, coupled with a declining standard of living in the United States have brought revolutionary changes to medicine. The future of U.S. medicine may be German, British, Canadian or something new,



but a new system is coming. In the interim, we live with the old system under attack from all sides. Medicine is treated simultaneously as a public utility and as a business. There are casualties, injustices and hardships while this political battle goes on. The current health care system is so patched together with bureaucratic glue that it lacks a cohesive logic. Health care is rationed by harassment of both providers and consumers. Both private and government insurers play the game: "Jump through the shifting hoops and the treatment might be authorized; this time. The rules, of course, will be changed next time." Patients and physicians are equally frustrated, but patients see physicians as part of the system and therefore part of the problem. An adversarial relationship develops. Medicine is forced to become increasingly efficient, more commercial and often less professional. Physicians must justify patient care to insurance clerks and government bureaucrats, who judge the care according to medical cookbooks and checklists. In hospitals, MBAs call the shots. The physicians is caught in a web of government regulations; which speak to quality of care, but care only about cost. Both the commercialization of medicine and patient consumerism make it easier for patients to become litigants. Professional liability has become another scheme for the redistribution of wealth. Like the lottery, it is the American dream twisted and perverted. The cost of liability coverage goes up and the protection shrinks. The umbrella of coverage becomes a fig leaf and a physicians's life savings are gambled with each roll of the two dice labeled diagnosis and therapy.

## MID-AGE STRESS

Superimposed on the professional stresses are the stresses of mid-life. Questions of mortality and life's meaning occur throughout life, but peak in mid-life. Patient's concern about mortality create an opportunity for the physician to learn. The dawning reality of personal mortality is coupled with the question, "Is this all that there is?" The life goals of youth must be reconciled with reality. It is also the transition from "Wow, a real physician!" to "...just a physician." Middle age is seen as the last chance to make a significant career change, possibly the last chance to be taken seriously by a new residency or a graduate school. A physician's children are often at a rebellious adolescent age and may bear the fruit of neglect by a parent preoccupied with a career. The primary caregiver at home may be dealing with the "empty nest syndrome" and the resulting role crisis.

The dangers and potential of mid-life have been appreciated across cultures and across time. In classical China, a man took a year off from his work when his

father died. The year was spent in reflection and in the rededication of the second half of his life.

## THE STORY OF DR. JOB

To better understand the nature of human despair and the liberation from despair, I turned to the first writings on the matter: the Book of Job in the Old Testament. The Book of Job was handed down as oral history from pre-literary times and was thought to have been authored in part by a woman. It is different in many ways from the rest of the Bible, in that it speaks of an existential God.

The Book of Job starts out with a very prosperous, very generous and very pious Job being singled out for a wager between Satan and God. Satan and God are treated initially as distinct anthropomorphic beings. Satan says to God, "If you weren't so good to Job, he wouldn't be so pious." God says, "We'll see. You may do anything but kill him." Satan does everything but kill him. Job loses all of his wealth, his children's lives and his personal health. Job is then visited by three self-righteous friends who say, "In spite of outward appearances, Job, you must secretly be a bad person. Since God is good, you must have deserved what you got." Job argues with each of the three, saying that God treats the wicked and the good equally and indifferently. It is up to the humans to do the right thing for its own sake. In the end, Job accepts his own mortality, the justice of injustice and a God that is both good and evil and beyond human understanding. God declares Job correct and his friends incorrect. Job regains his health, his children, his wealth; and lives another 140 years.

In order to make this story alive 4000 years later, I've recast Job as Dr. JOB. I've based my retelling on Stephen Mitchell's translation of *The Book of Job*.

Once upon a time, in the land of U.S., there was a doctor named Job. He was a man of perfect integrity, who respected authority and avoided evil. He had seven sons and three daughters, an office lab, and EKG and four employees. He was an affluent member of the community.

Dr. Job was a good man, a good husband, a good father and a good doctor. He grew up in the age of "The Donna Reed Show" and "Marcus Welby, M.D." He grew up in a time when America was first and right, when children had two parents and one parent could afford to stay home with young children, when everybody in high school was a virgin and they all went on to college.

Society saw doctors as Norman Rockwell saw them. They were revered and were expected to be slightly authoritarian. Deaths were an act of God. Malpractice was reserved for the truly hideous. The government's role in medicine was very limited.

One year, on the day when the angels come to testify before the Lord, the Accusing Angel (also known as Satan) came too.

The Lord said to the Accuser, "*Where have you come from?*"

The Accuser answered, "*From walking here and there on the earth, and looking around.*"

The Lord said, "*Did you notice my servant, Dr. Job? There is no one on earth like him: a man of perfect integrity, who respects authority and avoids evil.*"

The Accuser said, "*Doesn't Dr. Job have a good reason for being so good? Haven't you protected him? You bless whatever he does; his waiting room is teeming with appreciative patients who pay cash. But reach out and strike everything he has, and I bet that he'll curse you.*"

The Lord said, "*All right: everything he has is in your power.*"

That same day, a process server came to Dr. Job and said, "*This is a notice of an accusation of malpractice against you. The plaintiff was referred by you to a specialist. Although treated well by you and the specialist, the plaintiff is unhappy with the results and has named both physicians in the suit.*" Before he was finished speaking, another messenger came and said, "*Medicare has sent letters to your patients accusing you of excessive fees. Although your fees are in line with those of other physicians, a computer program triggered the letters. Your elderly patients are bewildered and disheartened.*" Before he had finished speaking, another one came and said, "*You have been named in an antitrust suit for your part in peer review at the hospital. The physician who was reviewed feels that every obsolete uterus should be removed, does not want to obtain second opinions, and has obtained the services of an attorney.*" Before he had finished, another messenger arrived and said, "*Your office lab is to be regulated by the government at great expense to you. The government realizes that the tests performed are simple and reliable and offer a savings and convenience to your patients. The government has decided, however, to treat you the same as the Medicare mills that it is trying to close down.*" Before he had finished speaking, another messenger said, "*The hospital administrator wishes to speak with you. A computer analysis of your admissions indicates that you are not maximizing hospital revenue on your patients.*" Before he had finished speaking, another messenger said, "*Your sons are in jail for selling marihuana and your daughters are patients at an STD clinic. One of your children wants to become a personal injury plaintiff's attorney.*"

Then Dr. Job stood up. He tore his white jacket. He shaved his head. He lay down with his face in the crabgrass. He said, "*Naked I came from my mother's womb, and naked I will return there. The Lord gave, and*

*the Lord has taken; may the name of the Lord be blessed.*"

Now, Dr. Job had three friends - Henry Waxman, the Congressman; Sidney Wolf, the consumer rights physician; and Melvin Belli, the personal injury lawyer. When these friends heard of all the calamities that had come upon him, each of them left his own region to mourn with Dr. Job and to comfort him.

**Melvin Belli**, the lawyer said:

These words will perhaps upset you,  
but I cannot hold back my thoughts.  
You have healed the sick  
and filled the frightened with strength.  
You brought relief to the comfortless,  
gave the desperate hope.  
But now *you* have been sued, and you tremble;  
now *you* are the victim, and you shudder.

Have you lost all faith in justice,  
all hope in the benevolence of the courts?  
Can an innocent doctor be punished?  
Can a good doctor be hurt by litigation?

Then **Dr. Job** said:

God's workings are vast and fathomless,  
his wonders beyond my grasp.  
How can I prove my innocence?  
If I testify, will a jury listen;  
will they see beyond the plaintiff's sadness?  
I am guiltless, but a lawyer condemns me;  
blameless, but words convict me.  
God is not just, nor does he care;  
he hurts both the pure and the wicked.  
He hands the earth to the wicked,  
and blindfolds its judges' eyes.  
One physician may treat many patients poorly,  
and be spared litigation through charm,  
intimidation or luck.  
Another may treat thousands of patients well,  
and be hurt, for one poor outcome.  
To be found innocent in the end, is *not* to be spared,  
the process of litigation *is* the punishment.

Then **Sidney Wolf**, the physician consumer activist said:

Should this physician be saved by his words,  
acquitted because he speaks well?  
Should you talk us into understanding  
and go on with your impudent lies?  
You have not memorized the interactions and  
complications in each year's Physician's Desk



Reference.

You have not obtained a complete Review of  
Systems on every patient with an earache.  
You have not done a computer literature search  
on each therapy that you prescribe.  
You say, "My conscience is clear";  
you think that your life is spotless.  
But if God were to cross-examine you  
and turned up your hidden motives  
and presented his case against you  
and told you why he has punished you -  
you would know that your guilt is great.

Then Dr. Job said:

You, Sidney Wolf, having never practiced  
medicine, know everything;  
perfect wisdom is yours.  
But I am not an idiot:  
who does not know some things?  
Only God is wise;  
knowledge is his alone.  
He turns great lords into morons,  
priests into driveling fools.  
He pushes professors of medicine off their thrones  
and knocks the crown from their heads.  
Life is not right angles and straight lines  
Patients are not born from the pages of  
Harrison's textbook.  
The day is 24 hours long,  
and much is to be accomplished.  
Consumerists can not expect the best of care  
*and* the least of cost.  
Put down your word processor, Sidney Wolf;  
and pick up a stethoscope.  
Then you will know what man is made of;  
and how long *or* short the day really is.

Then Henry Waxman, the Congressman, said:

Why do you treat us like morons  
and act as if we were cows?  
Should the laws be changed for *your* sake  
and mountains move at your bidding?  
Some doctors have robbed the old and the helpless;  
some doctors have robbed Medicare and  
Medicaid.  
Nothing escaped their greed;  
therefore, their wealth will vanish.  
Medicare mills bilked the government,  
so all labs will now be regulated.  
We must hobble the guiltless many,  
to restrain the guilty few.  
You, Job, should not complain of regulations,  
unless you have reason to be punished.

If you should be innocent *and* inconvenienced,  
that is a cost that you must bear.

Then Dr. Job said:

Why do the truly criminal prosper  
and live to a ripe old age?  
They end their lives in prosperity  
and go to the grave in peace.  
The sinner escapes destruction  
and is spared on the day of wrath.  
No one condemns his sins  
or punishes him for his crimes.  
He is carried with pomp to the graveyard;  
thousands weep by his coffin.  
He is tucked into the earth,  
and flowers bloom on his grave.  
Did I ever turn down a patient  
when he called to me in distress?  
Didn't I weep for the wretched?  
Didn't I treat the poor?  
Yet instead of good came evil,  
and instead of light there was darkness.  
Man who is born of woman -  
how few and harsh are his days!  
Like a flower he blooms and withers;  
like a shadow he fades in the dark.  
The good and the bad both rot in the ground,  
and maggots chew on them both.

The *UNNAMEABLE* then spoke to Dr. Job from  
within a whirlwind, asking a series of rhetorical ques-  
tions, designed to overwhelm:

Where were you when I planned the earth?  
Tell me, if you are so wise.  
Do you know who took its dimensions; or  
who laid down its cornerstone,  
Have you ever commanded morning  
or guided dawn to its place -  
to hold the corners of the sky  
and shake off the last few stars?  
Does the rain have a father?  
Who has begotten the dew?  
Out of whose belly is the ice born?  
Whose womb labors with the sleet?

Then Dr. Job said to the *UNNAMEABLE*:

I have said too much already;  
now I will speak no more.

The *UNNAMEABLE* again spoke to Dr. Job from  
within the whirlwind:

Do you dare to deny my judgement?  
Am I wrong because you are right about my  
indifference?  
Do you think that man understands justice;  
that the ultimate justice includes injustice?  
The continuum of nature runs seamlessly from  
angel to beast.  
God is both good *and* evil.

**Dr. Job** said to the UNNAMEABLE:

I have spoken of the unspeakable  
and tried to grasp the infinite.  
I had heard of you with my ears;  
but now I have experienced you.  
Therefore I will be quiet,  
*comforted that I am dust.*

The UNNAMEABLE then said to the three friends:

*I am angry at you because you have not spoken the  
truth about me, as my servant, Dr. Job has.*

Dr. Job's troubles passed. He resumed his practice and did good things. His sons and his daughters were treated as equals. He lived to a very great age and, in the midst of his family, had a peaceful death.

## EPILOGUE

To locate the path to true happiness and fulfillment, one must first identify the false paths, which include popularity, money and power.

To live one's life in expectation of the appreciative roar of the crowd, is to be disappointed. Applause *may* come, but only by chance. The crowd is not just; it is fickle and quick to forget. Communities suck physicians dry and spit them out. Yesterday's has-been. "*Good old doc Bean. He was a good guy. Always could count on him. Too bad he died so young*". Go to the cemetery; see the doctors who are buried there; and listen to what people say about them. This is a lesson from Job.

If one lives for money, one will never have enough. The Yuppie war cry: "*He who dies with the most toys, wins*" is a sad epilogue on a life, especially the life of a physician -- someone with the ability and opportunity to be more. Money is the measure of the ignorant, for it is easy to count. Money is fickle and can be taken away in a liability suit or in a monetary devaluation. Money makes a poor anchor in life. This is a lesson from Job.

There are two kinds of power. Power that is desired and taken is fragile; for it must be continually guarded with intimidation. The other kind of power, that is

given as a gift to those who shun power, is more enduring and does not need to be defended. This is a lesson from Job.

Even family, which is more important than self, has its limitations. Children grow up and acquire lives of their own. To hold on to them is to hurt them. To expect nurture from children is to risk disappointment. As in Job, family may even be taken from us.

The only thing that will empower us, recharge us and sustain us is to live to a standard that is higher than self; to do the right thing. If this standard be God, then it is not an anthropomorphic creation of humans. The God of Job is the UNNAMEABLE; an experience, but not an object. To live to such a standard is to live with uncertainty. What is right is not quite the same for each person. As in medicine, cookbooks and checklists fall short. There is no guru to show the way. It is a process, not an end.

The Book of Job is an allegory for the life of every man and every woman. The first half of life goes along fairly well, protected by naivete. Mid-life stalls. The old truths fail us. Institutions, and even friends, may let us down. The task is to shed the last vestiges of childhood; to realize that we are not living our lives for the approval of a parent or a parental God. We must find an inner compass to guide us through the mid-life wall. We must assume responsibility for our lives. Job finds comfort in accepting the truth of his mortality. At the end of life, with pretensions stripped away, we will have a clearer view of the path that we have taken. We will know if we have achieved balance. We will know if we have done the right thing. We will not need anyone to tell us.

Along the way, we must assume responsibility for our choices. We choose to be alive. We choose to be physicians. We choose to be married. We reaffirm these choices everyday. We are talented people with other marketable skills. We choose to endure the responsibilities and hardships of medical career. We are not the pawns of a mean-spirited god, of overzealous parents or of manipulative spouses. We take responsibility for our lives, for our happiness and for our choices.

In the end of the Book of Job, there are two measures of his success. Job is productive and his children are productive. This is a secret to fulfillment and recharging. We are alive, *not* to consume, but to produce; to give more than we receive. This is a powerful sociobiologic truth.

The root of medicine can be traced to shamans, medicine men and women, and healers in all cultures and times. The healing profession will outlive all governments and bureaucracies.

Job took responsibility for his life and his happiness. He made peace with mortality. He made peace



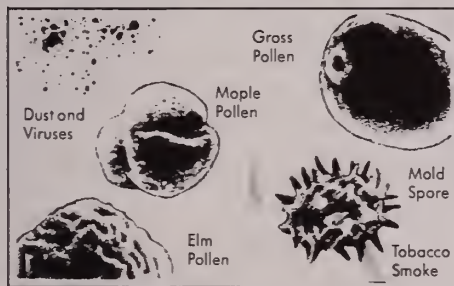
with the injustices in life. He remained productive. He declared virtue to be its own reward; and life to be good, not easy. The second half of Job's life was better than the first. This is the wisdom handed down from the ancients to us. The power in this knowledge is the power that will recharge us.

Stephen Mitchell. The Book of Job. North Point Press, 1987.

### POSITION ANNOUNCEMENT

Executive Director of the International Union for Circumpolar Health (IUCH), a full-time position located in Anchorage, Alaska. The Executive Director of the IUCH will: ensure ongoing collaboration and communication of international scientists in circumpolar health; ensure the substantial involvement of aboriginal peoples from all Circumpolar nations in circumpolar health issues; ensure the planning and implementation of successive circumpolar health congress as the major vehicle of scientific communication. For a detailed job description and further information contact Carl Hild, (907) 276-2864.

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**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon® is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

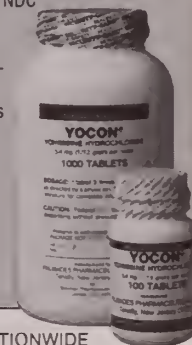
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

#### References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
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# HUMANA HOSPITAL - ALASKA AIR AMBULANCE: USE OF MULTIDISCIPLINE AEROMEDICAL TEAMS

By Becky Lundqvist, RN, CEN  
Air Ambulance Manager/Chief Flight Nurse

The aeromedical environment in Alaska offers unique challenges due to several factors: the long distances patients must be transported, the wide range in the level of medical care available from rural medical practitioners, and the different levels of stabilization performed on patients prior to the arrival of a medevac team.

To meet these challenges, Humana Hospital - Alaska's Air Ambulance program uses a combination of Flight Paramedic and Flight Nurse -- a team combination that has proven invaluable in providing quality medevac care throughout the state. Each member comes to the aeromedical environment with a unique set of skills. The Registered Nurse is trained with a wide generalized knowledge base, while the Paramedic training concentrates on first response emergency care. Air Ambulance members are successfully enhancing the probability of positive patient outcomes by combining their special skills in a team approach.

Both Registered Nurses and Paramedics must have a critical care background. The nurses must have experience in Intensive Care Unit/Coronary Care Unit/Emergency Room and the Paramedics must have high volume street time with an Advanced Life Support service. Members of the Humana Hospital Air Ambulance flight crew also receive initial aeromedical training and regular, on-going training, including monthly run reviews conducted by Dr. Peter Hackett, Air Ambulance Medical Director. All flight crew members also hold certification in ACLS and PALS, with intubation time in the Operating Room.

The most dramatic advantage of the Registered Nurse-Paramedic team is evident when the transport circumstances vary from the standard hospital-to-hospital medevac. As an example, the following case is offered:

The Humana Hospital Air Ambulance team, responding to a call from a large fish processing ship, had to board the vessel in order to stabilize and immobilize the patient. Climbing a Jacob's ladder (a rope ladder used over the side of the ship for ship-to-ship boarding) is a skill most nurses do not often use in the course of delivering patient care. With a

RN/Paramedic team, the Paramedic quickly repacked needed supplies into a manageable backpack. With the Paramedic's encouragement and skilled support, both team members climbed the Jacob's ladder with no difficulty.

The view point of the two care providers is also different, as illustrated by this case:

The Humana Hospital Air Ambulance team was on an airstrip at night, waiting for the local ambulance to arrive with an elderly cardiac patient. The team was notified that CPR had been in progress on the patient for 25 minutes, at BLS level. The Paramedic team member suggested running the ALS code outside the aircraft, and prior to the arrival of the ambulance, had the elevated stretcher out of the plane, ACLS equipment and medications spread out under the landing lights of the aircraft. When the patient arrived, an efficient code was run.

In this case the Flight Nurses could have ran an effective code, but the inclination would have probably been to load the patient on the medevac aircraft and head for Anchorage immediately, coding the patient on the way. The Paramedic, with training and experience as a first responder, suggested performing the code where there was more space and visibility for intubating. Although the aircraft is well configured for medevacs, the unrestricted area outside the aircraft provided for more maneuverability on the part of the care providers.

Other skills the Paramedics offer that Registered Nurses have learned empirically and have only minimal experience with are scene safety, triage, extrication, and initial immobilization. With the varied situations requiring medevac service, these skills are often needed.

The Paramedics bring the skill of strong immediate problem solving to the team, while Registered Nurses bring the skill of long term management. The result is a solid base of knowledge, training and experience for the aeromedical environments found in Alaska.

The Registered Nurse - Paramedic team is becoming the standard in aeromedicine throughout the United States. This combination of skills and experience is important because many medevac responses in the Lower 48 are to on-scene motor vehicle and other situations where the first responder expertise is critical. In Alaska, the incidence of first response is much less frequent because most medevac situations at the registered Critical Car Air Ambulance level are from facility to facility. However, the unique nature of medical care delivery in Alaska, as outlined earlier, makes first responder skills extremely valuable on Alaskan aeromedical teams, as demonstrated by the Humana Hospital Air Ambulance program.

The cross training of nursing personnel into Paramedic licensure is a controversial subject, as some

states are simply "rubber stamping" the Paramedic licensure onto a nursing license. Most states, however, require a full paramedic program before double licensure is granted, as is the case here in Alaska. It is important to maintain this standard to ensure quality training.

For most nurses involved in flight nursing, the first response training can be realistically gained through the Alaska EMS system. With nurses obtaining EMT certification, we see the growth of the nurse's ability in first response situations. This EMT training is invaluable to a flight nurse, but our experience has shown that by adding qualified, experienced licensed Paramedics to the flight team, Humana Hospital's Air Ambulance program draws the full benefit of the multidiscipline flight team.

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## **NBALCO**



# SEXUALLY SPEAKING...

## TAKING A SEXUAL HISTORY

By Mary B. Cavalier, M.S.<sup>(1)</sup>

A survey done by Melinda Evans, M.D., MPH in conjunction with the Alaska State Medical Association in autumn 1988 showed that out of the 181 physicians who responded, only 35% reported taking a sexual history on their patients.

There are many reasons to take a sexual history. The obvious one is to gather information to make a risk assessment for sexually transmitted diseases, including HIV. The not so obvious reasons are the various physical ailments which may have a psychosomatic etiology link to a dissatisfactory sex life. These ailments may be headaches, back pain, stomach pains, cramps, unexplained chest pains etc.

If one operates on the premise that sex is a release of physical energy, then one may deduce that if there is not a release of such energy (or build up), that energy may lodge itself elsewhere in the body - creating pain. An example would be a man repeatedly seeking sexual relations with his partner. His partner say no, sometimes not that nicely. If there is no other way he can release the sexual energy, he may become sexually frustrated (a buildup of sexual energy). Eventually when the man begins to experience sexual desire, he recalls the conflict, and this in turn creates anxiety and frustration which leads to tightness of the chest. He shows up in your office complaining of chest pains.

Another example would be the woman who because of early childhood condition does not feel comfortable talking to her sex partner about not being satisfied. The buildup of sexual frustration, guilt for having such feelings and the inhibitions blocking communicating about sex with her partner may lead to chronic headaches.

Many people resist the link between the feelings and physical ailments. Therefore, most will consider going to their physician before seeking counseling. Of course it is important to rule out any physical etiology first. A sexual history, if incorporated earlier on in the diagnostic process may save time and money for you and the patient.

Sexual histories do not need to be long. You may even wish to create a questionnaire so that patients fill it out themselves. Here are a few sample questions which can be included:

1. Are you currently active sexually? If so, what is the approximate frequency of sexual activity?  
*Do not assume because a person is married they are sexually active. Nor on the other hand, don't assume because they are not married or elderly, they are not being sexual.*
2. How many sexual partners have you been with in the last year? Men, women, both?  
*This is an important question to ask everyone. This is a key question for assessing high risk behavior.*
3. Are you satisfied with your sex life? If not, can you explain what is dissatisfying?
4. (For men) Do you have difficulty obtaining or maintaining an erection? Do you have any difficulty with the control of ejaculation?  
*This is an age appropriate question. Older males have a tendency to experience a decrease in penile response. This question can, however, open the door to discussing other ways he may be sexual with his partner.*
5. (For women) Do you have any difficulty becoming sexually aroused? Do you ever experience pain during intercourse? Do you have difficulty being orgasmic?  
*Again, this is an age appropriate question. Women post menopause do experience a decreased ability to become aroused. This can be falsely interpreted by the patient as a complete loss of her sexuality. A little education can go a long way with this type of patient.*
6. Do you have any questions or concerns related to sex that you would like to discuss?

## CONCLUSION

As you can see, a sex history can be brief and to the point. The response one gets from patients directly correspond to the comfort level of the asker. The more non-judgemental and casual, the better. Another option is to create a questionnaire. The patient then determines how much and what he or she wants to write.

Either way, a sex history can play an important role in treating the whole person.

## RESOURCES

1. Section of Epidemiology, State of Alaska.
2. Kolodny, Masters, Johnson. Textbook of Sexual Medicine. Boston: Little, Brown and Company, 1979.

<sup>(1)</sup>Robert Alberts, M.D. & Associates, 3340 Providence Drive, Anchorage, AK 99508.



# American Society for Circumpolar Health

## A Brief History

The Circumpolar Health movement started in the early 1960's. Dr. C. Earl Albrecht was Commissioner of Health for the State of Alaska from 1945 to 1956. He envisioned an International Union for Circumpolar Health for over a decade before the first international meeting became a reality.

In 1967 Dr. Albrecht initiated the first circumpolar symposium. He was then professor of Preventive Disease at Jefferson University in Pennsylvania and a visiting consultant to the University of Alaska (Fairbanks) and the Arctic Health Research Center. With the help of the Arctic Institute of North America, of which he was President in 1966 and 1967, and the University of Alaska, under President William R. Wood, the First International Symposium for Circumpolar Health was held at the University of Fairbanks July 23-28, 1967.

Dr. Fred Milan was then a Human Research Physiologist with the Arctic Aeromedical Laboratory for the United States Air Force in Fairbanks. He became the local co-chairman with Dr. Albrecht for this first symposium. Participants came from the U.S.S.R., Canada, Norway, Denmark, Sweden, Greenland, Iceland, and Finland.

It was at this symposium that an informal international affiliation was formed. The decision was made to hold a symposium (later called a Congress) every three years, each in a different country. The basic purpose of the symposia were to bring together the medical scientists, health care delivery specialists, health administrators, and health consumers to discuss the state of the art in their respective fields; to allow national and international participants to observe and discuss the health situations in their own country; and to relate solutions to health problems in other parts of the world to the unique health problems of the circumpolar regions. The proceedings from this symposium were published in a special issue of the Archives of Environmental Health in 1968.

At this meeting, an informal organization of the American Society for Circumpolar Health was formed. Dr. C. Earl Albrecht, with the assistance of Dr. Fred Milan and other Alaskan scientists, held this

organization together in order to actively participate in future international symposia.

The 2nd and 3rd symposia were held in Oulu, Finland (1971) and Yellowknife, Canada (1974). In these symposia, participation from all countries, including the U.S.S.R. increased.

The 4th Symposium was held in Novosibirsk, U.S.S.R., October 27, 1978. Drs. Albrecht and Milan were members of the organizing committee with V.P. Kaznacheev, Academician of the U.S.S.R. Academy of Medical Science, Novosibirsk, as Chairman. The symposium was sponsored by the Regional Office for Europe of the World Health Organization (WHO). Approximately 35 United States participants joined with those from the U.S.S.R., Sweden, France, Norway, Finland, England, Hungary, Japan, Netherlands, Denmark, and Canada.

Approximately 325 scientific papers and 150 posters were presented. The United States presented 30 papers and seven poster displays. Most of the papers, 181, and posters, 128, were presented by the Soviet participants.

In 1979, the informal American Society for Circumpolar Health moved to formalize its status. In 1980, the Constitution and Bylaws were drawn up and the American Society for Circumpolar Health became a reality. Dr. Albrecht became the first president with Edward Scott, Sc.D., Vice President; Wayne Myers, M.D., Secretary; Thomas Bender, M.D., Treasurer. The first major task of the newly formed society was to guarantee quality representation at the 5th international symposium in 1981.

Denmark hosted the 5th International Symposium for Circumpolar Health in August 1981. Approximately 300 participants formally registered from 17 countries. Scientists came from Argentina and Australia to share Antarctic activities. The United States had 40 participants.

In 1982, Dr. Wayne Myers became President: Robert Fortune, M.D., Vice President; William Ryan, Secretary; Brian McMahon, M.D., Treasurer; and



John Middaugh, M.D., Director. At the 1982 meeting the officers continued the task initiated at the 5th symposium, prepare to host the 6th meeting in Anchorage, Alaska in May 1984. Dr. Albrecht announced during this time the progress of the formation of the International Union for Circumpolar Health. The American Society for Circumpolar Health (ASCH) would be one of the four forming bodies of the Union.

At a May 27, 1984 meeting of the ASCH held in conjunction with the 6th International Congress for Circumpolar Health (6th ICCH) it was decided that the ASCH would henceforth hold its annual meeting in conjunction with the American Association for the Advancement of Science (AAAS) Arctic Division Meeting and become a major participant in this scientific conference. At this time Helen Beirne, M.D., was appointed to replace Dr. McMahon as Treasurer.

The 6th ICCH was hosted by the ASCH and was held in Anchorage, Alaska May 17 -21, 1984. It was co-sponsored by the University of Alaska and the Alaska Department of Health and Social Services. Approximately 700 participants were registered for the meeting from 21 countries and 270 scientific papers and posters were presented.

The Regional Office for Europe of the World Health Organization, the organization responsible for WHO programs in the arctic, convened two working groups in conjunction with this meeting. The Alaska Public Health Association held its annual meeting as part of the Congress and invited speakers, composed of internationally recognized foreign medical specialists, to meet with the U.S. scientists to discuss an Arctic Health Policy. The American Public Health Association eventually produced "The National Arctic Health Science Policy" as a result.

Proceedings from all of the symposia have been published except the 1st and 4th. Proceedings of the 6th Congress were published in a 484 page hard cover book including 108 of the 199 oral presentations. It was edited by Dr. Fortune and published by the University of Washington Press (Seattle and London) in cooperation with the University of Alaska Press, Fairbanks.

At the 1984 annual meeting of the ASCH, those who took office were Dr. Middaugh, President; Dr. Fortune, Vice President; Frank Pauls, D.P.H., Secretary; Dr. Beirne, Treasurer, and a five person

board of Directors. Dr. Albrecht was appointed an Honorary Director.

At the September 28, 1985 annual meeting in Fairbanks, two representatives; Dr. Middaugh, and Ted Mala, M.D., were elected as delegates to the International Union for Circumpolar Health's first organizational meeting that was held in Oulu, Finland in May, 1986.

The ASCH had 98 members at the date of their October 20, 1986 annual meeting. Drs. Albrecht and Milan were recognized for their visionary organizational work in Circumpolar Health and for promoting international cooperation. At this meeting, the concept of the Albrecht/Milan Endowment Fund was presented. The Board also endorsed the concept of Alaska Medicine as the official journal of the ASCH. Dr. Fortune was elected to serve as the second delegate to the IUCH along with Dr. Middaugh.

The 7th ICCH was held in Umea, Sweden, June 8-12, 1987. Scientific and health specialists from 20 countries presented 344 papers and poster displays. Of the papers presented, 66 had at least one author from the United States. Of the papers presented by U.S. participants, 79% were authored by members of the ASCH. Members of the ASCH numbered 129 at the time, 52 of whom were from Alaska. The proceedings of the 7th Congress is a 744 page hard back publication containing 175 of the presented scientific papers.

The September 24, 1987 annual meeting of the ASCH indicated 143 members. Much of this increase resulted from the 7th ICCH. By this fall meeting, the International Union for Circumpolar Health had been organized. The Bylaws, which Dr. Albrecht had drafted the first language, had been finalized and the four adhering bodies to the new Union became the ASCH, the Nordic Council for Arctic Medical Research, the Canadian Society for Circumpolar Health, and the Siberian Branch of the U.S.S.R. Academy of Science, Medical Section. Two delegates from each adhering body, two members elected by the members of the Congress and a representative of the Scientific Committee for Antarctic Research were to make up the body of the Council of the International Union for Circumpolar Health (IUCH).

All officers remained the same in the ASCH election. Alaska Medicine was adopted by the membership as the official journal and would be included in the price

of membership. Proposed changes were announced to the Bylaws that would allow for the establishment of the Albrecht/Milan Foundation. A committee was appointed to research the structure of the Foundation.

The October 8, 1988 annual meeting was held in Fairbanks with the theme being "Science and Education." ASCH membership was 154. The officers remained the same with Drs. Milan and Myers becoming new Honorary Board members. During the coming year ASCH participated in supporting the AAAS Arctic Division Meeting, the IUCH Tobacco and Cancer workshop, and the Alaska Science Foundation. Funds totalling \$4,472.85 were donated to the Albrecht/Milan Endowment Fund within the ASCH.

The September 15, 1989 annual meeting was held in Fairbanks. The ASCH Constitution and Bylaws were amended to reflect the inclusion of the Society's membership in the IUCH and the changes in election of officers to provide for continuity with the ICCH. A new section was added to the Bylaws which established guidelines for the Albrecht/Milan Fund.

The four new officers that had been elected took over at this meeting. Replacing a team that had worked together for six years was to be a challenge for Anne Lanier, M.D., President; David Templin, M.D., Vice President; Jeanne Roche, Secretary; and Carl Hild, Treasurer.

During this year the ASCH participated and supported the Alaska Science and Engineering Foundation, the U.S. Arctic Research Foundation; the AAAS Arctic Division Meeting, the IUCH and the University of Alaska's Institute for Circumpolar Health. There was a need to select a new delegate to the IUCH and Mr. Hild was elected to work with Dr. Middaugh. Three Honorary Board Members were appointed - Drs. Beirne, Fortuine and Dixon.

The 8th ICCH was held in Whitehorse, Canada from May 21-25, 1990. Approximately 750 delegates from 15 countries attended. Over 420 papers and posters were presented. The Alaska Public Health Association held its annual meeting in conjunction with the Congress. The past officers of ASCH, Drs. Middaugh, Fortuine, Pauls, and Beirne were honored for their long service to the Society. At the meeting of the Council for the IUCH Mr. Hild was elected Vice President. The Soviet delegation invited the IUCH to attend the 8th Congress in Novosibirsk U.S.S.R. in June of 1993. The ASCH made the offer

to host the 9th ICCH in Alaska in 1996.

Dr. Fred Milan was presented the Jack Hildes award by the IUCH for longstanding health research in arctic regions. This award had been given at the 1987 and 1990 IUCHs. The Canadian government struck twelve medals in honor of Dr. Hildes, a revered former Canadian health researcher. The medals have been given to an outstanding representative from each of the four adhering bodies of the IUCH. These are considered the highest award in Circumpolar Health. Dr. Albrecht had been the U.S. recipient of this award in 1987.

The 1990 annual meeting was held in Anchorage on October 9, 1990. Dr. Lanier had resigned in the spring and Mr. Hild was elected as President in the fall. Dr. Middaugh was elected to continue as one of the two delegates to the Council of the IUCH with Mr. Hild. Dr. Pauls was elected to a Board seat, while Dr. Middaugh was elected as an Honorary Board Member. Drs. Albrecht, Beirne, Fortuine, Milan, and Pauls received Emeritus status as retired and ten year members of ASCH.

During 1990 the ASCH participated in and supported the "International Workshop on Alveolar Hydatid Disease" held in Anchorage June 2-8, 1990, the 1990 AAAS Arctic Division Meeting, and the ICCH. Anita Tigert was elected as the Treasurer of the ASCH. Consultants were hired to pull together all the pieces the Society had laid out and to orchestrate the initial meetings of the Albrecht/Milan Foundation.

Through the efforts of numerous dedicated people over a span of many years a structure has been formed that will build for the future. In the winter of 1991 the dream to be able to regularly support Circumpolar Health activities in the United States has been realized and named in honor of the people who had the dream. The beginning of the Albrecht/Milan Foundation is the beginning of a new era in United States Circumpolar Health.

- contributed by Helen Beirne, Ph.D.



# INPATIENT REFERRAL PROGRAM

Janet L. Small, R.N.,BSN, MSN

The Department of Veterans Affairs Inpatient Referral Office (VAIRO) was developed in late 1989 to administer the regulations under Title 38, U.S. Code of Federal Regulations, Sections 17.50d and 17.50f. Since there is no VA Medical Center in Alaska for inpatient services, the majority of veterans' healthcare has been provided under VA auspices by the private sector. Because of growing concerns in the U.S. Department of Veterans Affairs with the amount of funding necessary to provide healthcare for eligible veterans in the private sector in Alaska and the desirability of expanding VA/Department of Defense Sharing Agreements, the Independent Anchorage VA Outpatient Clinic, as the Clinic of Jurisdiction, was tasked with regulation enforcement.

In order to implement a program of enhanced economic controls, a comprehensive review of available healthcare services, including private, state, Federal, and military, was completed. Of the average 70,000 veterans that reside full- and part-time within the State, the greatest concentration is within the Anchorage bowl area. Since Anchorage is also the largest population area in the State, the concentration of public, private, Federal and State healthcare facilities are also located here. Thus, plans to establish the regulating program was concentrated on this metropolitan area.

The regulation cited above specifically mandates that Federal facilities and physicians be utilized in the care and treatment of all eligible veterans whenever the facilities and physicians are available. If those are not available, then the next alternatives to explore are transfer to a VA Medical Center (VAMC), a Federal hospital, or private hospital, in that order. Seattle VAMC is Alaska's primary VA referral center. However, other VAMCs may be used depending on their specialty resources. Examples would be the closed-head injury rehabilitation services provided by the Palo Alto VAMC; renal transplants at the Tucson VAMC; cardiac transplants at the Salt Lake City VAMC; liver transplant services at the Portland VAMC; long-term pain control, lithotripsy and hyperbaric oxygen therapy at the Long Beach VAMC, and bone marrow transplants at the Seattle VAMC.

In developing a comprehensive program, recognition of current VA healthcare policies and practices was taken into consideration. Implementation was planned to be in phases so that everyone including veterans, facilities, physicians, etc., could develop an understanding of this change.

One phase included an in-service program for the physicians, their staffs and facility management staff.

A program was presented at a local Anchorage hospital in the Spring of 1990. It was a non-fee program for physicians and their office staffs. Over a hundred people attended this session. Several VA management staff have presented programs to groups throughout the State to enhance understanding and foster open communications. Another vehicle used to communicate these changes is the "Medical Program Update" published periodically. These are mailed to every provider and facility in the State. The veterans also receive written periodic notices of any changes within the system that affect them. Employee in-services at the VA Independent Outpatient Clinic are conducted on a continuing basis.

In order to place veterans who are primarily seeking care from the private sector into the VA/Federal facility arena, the VAIRO began in January 1990 to require the use of Pre-admit Numbers. These numbers are obtained prior to the scheduling of an inpatient admission or outpatient procedure. Veterans have the ultimate responsibility of obtaining the number. However, it is expected that the physicians and their staffs will obtain the pre-approval if the veteran has not. A Pre-admit Number is required for every veteran, regardless of service-connected disability. It is during this initial exchange of information that the veteran may be referred to a VAMC or military facility for the care that they are seeking or that the physician is seeking in their behalf. A VA healthcare provider is on call 24 hours/day to accept these requests at:

- 229-8172 (cellular phone)
- 907-271-2200 (alternate, in the event of equipment failure)

The Inpatient Referral Office is located at the VA Satellite Clinic, Elmendorf Air Force Base Regional Hospital. The office hours are: 8 a.m. - 4:30 p.m., Monday through Friday. After hours, weekends and holidays, one of the VA physicians in on-call. An additional responsibility of the Inpatient Referral Officer is the coordination of VAMC - military admissions, transfers, discharges and/or clinic visits.

There remains a potential for multiple questions and/or problems within the vast arena of Federal rules and regulations. For instance, there may be many interpretations of one regulation; therefore, the healthcare providers are urged to call at any time. The calls should be directed to:

- Office of the Chief of Staff, VA Outpatient Clinic -- 907-271-2242
- Inpatient Referral Officer, Elmendorf USAF Regional Hospital -- 907-271-2289

# RESOLUTIONS

## ADOPTED AT THE ALASKA STATE MEDICAL ASSOCIATION ANNUAL MEETING HELD IN JUNEAU, ALASKA APRIL 27, 1991

### 91-2: Endorsement Firearm Safety Programs and Recommendation to Improve the Design of Firearms

BE IT RESOLVED that the American Medical Association urges the development of an accurate, rapid means of conducting background checks of gun purchasers, and be it further resolved that the American Medical Association urges regulations to require that future plastic or ceramic guns contain metallic parts sufficient to provide an identifiable outline on x-ray, and to activate magnetic anomaly security systems, and be it further

RESOLVED that the American Medical Association encourages and endorses safety programs to engender responsible use and storage of firearms, and urges manufacturers to improve the design of firearms to enhance safety.

### 91-3: HIV Testing for Immigrants

BE IT RESOLVED that the Alaska State Medical Association communicate opposition to the United States Department of Health and Human Services in their proposal to remove HIV infection from the list of Communicable Diseases of Public Health Significance for the purpose of immigration, and that mandatory testing of proposed immigrants be continued, and that potential immigrants who test positively for HIV be excluded from settlement in the United States, and be it further

RESOLVED that the Alaska legislature be petitioned to voice similar objection to the United States Department of Health and Human Services, and be it further

RESOLVED that the Hickel administration be requested to voice similar objections.

### 91-4: Tort Reform

BE IT RESOLVED that the Alaska State Medical Association supports enactment of state and/or federal legislation to accomplish the following elements of tort reform:

1. cap non-economic damages at \$250,000
2. mandate periodic payments for awards above \$100,000
3. acknowledge and subtract collateral payments from awards
4. put lawyer contingency fees on a sliding scale
5. abolish Rule 82
6. set a two-year statute of limitations; or, in the case of infant claims, the two-year statute of limitations would begin at the time of the claimant's sixth birthday.

### 91-5: Honorary Membership for William J. Mills, Jr., MD

BE IT RESOLVED that the Alaska State Medical Association bestow honorary membership to Dr. William J. Mills, Jr.

### 91-6: 1st Annual Rural Health Conference: Voices for the Wilderness

BE IT RESOLVED that the Alaska State Medical Association formally supports the 1st Annual Rural Health Conference.

### 91-7: Health Policy for Alaska

BE IT RESOLVED that the Alaska State Medical Association is committed to the establishment of a health policy for Alaska which will provide the framework of a health care system to which governmental and private health care providers can contribute, and which will specifically address the challenge of access to health care for every Alaskan citizen.

### 91-8: Statistical Analysis of the Current Alaska Health Care System

BE IT RESOLVED that the Alaska State Medical Association supports an objective, high quality analysis of the Alaska health care system, using standardized methodology and uniform medical data.



**91-9: Research of Health Care Systems and Studies in Other States**

BE IT RESOLVED that the Alaska State Medical Association supports the thoughtful observation and careful analysis of other state and federal proposed solutions to the problem of providing health care to all Americans at reasonable cost.

**91-11: Problem of Alaska's Uninsured and Underinsured**

BE IT RESOLVED that the Alaska State Medical Association supports the development of immediate and concrete measures to deal with Alaska's uninsured and underinsured, that could include the establishment of basic medical benefits packages, mandated risk pooling for currently uninsurable individuals, and state subsidies of premiums for certain individuals.

**91-12: Cooperative Forum for the Discussion and Development of Health Care Policy in Alaska**

BE IT RESOLVED that the Alaska State Medical Association supports the creation of a mechanism which will provide a forum for cooperation, dialogue, and consensus among all interested parties.

**91-13: Hospital Competition in Rural Communities**

BE IT RESOLVED that the Alaska State Medical Association:

- Supports the highest quality health care for all Alaskans, native and non-Native alike; but
- Deplores unfair subsidized competition with private hospitals and clinics, and
- Deplores patient dumping by all hospitals.

BE IT FURTHER RESOLVED that the Alaska State Medical Association will work to increase public and political awareness of this issue.

**91-14: Mandatory Drivers License Revocation for Minors DUI**

BE IT RESOLVED that the Alaska State Medical Association call upon the legislature to pass and the governor to sign into law a mandatory one year revocation of the license to drive for any minor convicted of driving under the influence, and a mandatory revocation for two years or until age 21, whichever comes last, for a second conviction of a minor driving under the influence.

**91-15: Encouraging Community Based Medical Education**

BE IT RESOLVED that the American Medical Association recognize and acknowledge the vital role of practicing physicians in community hospitals in medical student and resident teaching, and be it further

RESOLVED that the AMA adopt as policy and encourage an increased role for non-university-affiliated community hospital settings in medical student and resident education.

**91-17: Adequate Health Care on Cruise Ships**

BE IT RESOLVED that the Alaska State Medical Association urge state government to require that cruise ships carry adequate emergency equipment, and a physician fluent in the language of the majority of its passengers.

**91-18: Thanking the City of Juneau**

**91-19: Thanking the Juneau Convention and Visitors Bureau**

**91-20: Thanking the Westmark Hotel, Juneau, AK**

**91-21: Thanking the Baranof Hotel, Juneau**

**91-22: Thanking Centennial Hall Convention Center**

**91-23: Thanking Our Convention Speakers**

**91-24: Thanking the Alaska State Medical Association Staff**

**91-25: Thanking our Meeting Planner, Janice Holtz**

**91-26: Thanking First Lady Irmalee Hickel**

**91-27: Thanking the Juneau City Museum**

**91-28: Thanking the Medical Insurance Exchange of California**

**91-29: Thanking the NORCAL Mutual Insurance Corporation**

**91-30: Thanking the University of Washington, School of Medicine**

**91-31: Thanking the Alaska State Hospital & Nursing Home Association**

**91-32: Thanking Governor Hickel**

**91-33: Thanking Our Convention Exhibitors and Sponsors**

BE IT RESOLVED that the Alaska State Medical Association extends its sincere appreciation for making our meeting a wonderfully successful convention.

# PIAA Breast Cancer Study: Delay in Diagnosis Expensive

by NORCAL Mutual Insurance Company

Delay in diagnosis of breast cancer is one of the leading causes of medical malpractice suits throughout the United States. When the Physician Insurers Association of America (PIAA) found that delay or failure to diagnose breast cancer represented the most expensive and the second most common loss area for physician insurers, they undertook a special breast cancer study. Twenty-one PIAA companies participated in the study of 273 closed, paid breast cancer cases. The purpose of the study was to investigate the circumstances surrounding the high frequency and severity of claims arising from this condition. NORCAL participated in the study, with Ivan C. Neubauer, M.D. of our Board of Directors, acting as NORCAL's committee representative. Selected statistical findings are illustrated in Tables 1-2.

## CONCLUSIONS OF THE STUDY

Following are the six key conclusions regarding breast cancer diagnosis suggested by the study.

1. *Pay close attention to physical findings during the examination.* The most common reason given for delay in diagnosis (147 cases, or 54.7% of the total) was that the physical findings at examination failed to impress the physician. More careful examination, as well as ordering additional studies if there is any evidence of abnormality, may lead to earlier detection of potential problems.

2. *A high index of suspicion of breast cancer must be maintained by physicians treating younger women.* While breast cancer has a higher incidence in women over age 40, the study indicates that the delay in the diagnosis of cancer in younger women results in a majority of those claims having a large proportion of indemnity payments. Females under age 40 comprise

40% of claimants and 58% of the paid indemnity. Females under age 50 represent 69% of claimants and these claims have 84% of the total paid indemnity. It is especially difficult to diagnose a mass in women under age 40 because they have a higher density of breast tissue.

3. *When the lesion is found by the patient, pay close attention to the findings and order appropriate follow-up studies.* In 69% of all claims the patient found the lesion. The study indicates that self-discovery is often ignored by physicians, particularly when the patient is a younger woman.

4. *A biopsy should follow any suspicious findings.* 35% of all claimants had a negative mammogram report and 14% had equivocal mammogram results. False negatives and equivocal results occur more frequently in women under age 40. The large percentage of women with negative or equivocal mammogram results indicates that further testing may be warranted in diagnosing women of all ages.

5. *Do not delay follow-up in women who present with a mass with pain or tenderness.* 27.2 % of the claimants studied presented with masses with pain and tenderness. Because pain is not characteristic of breast cancer, but of benign lesions, this percentage reflects a delay in the diagnosis of cancer in such cases.

6. *Do not neglect to take and document the patient's family history.* Surprisingly, 37% of the cases in this study claimed the family history as unknown. Where the family history is positive for cancer, an even more aggressive pursuit of tissue diagnosis should be made in order to detect a lesion early and eliminate the delay in diagnosis.

Table 1.

Frequency Distribution of Patient Age Age Group	Frequency (of 273)
20-29	24
30-39	85
40-49	78
50-59	56
60-69	20
70-79	6
80-89	1

Table 2.

Average Indemnity Payment by Specialty Named  
(\$'s in 000's)

Specialty	Total Indemnity Paid	Frequency (of 273)	Average Payment
OB/Gyn	\$27,951	135	\$207
Radiology	8,112	40	203
Surgical Specialties	7,769	57	136
Family/Gen'l Pract.	6,894	60	115
Internal Medicine	3,820	42	91
Pathology	920	6	153
Other	656	10	66
<b>TOTAL</b>	<b>\$56,122</b>	<b>350</b>	<b>\$160</b>



# History of Medicine in Alaska

GEORGE N. WAGNON, M.D.

About his childhood in Atlanta, Georgia, George Wagon says, "Compared to the world today it was a fantastically happy time. There was baseball in summer and the hope for snow for sledding in winter." Of course, it was the Deep South, fully segregated. His father had a black man named Ivy for driving, yard work and cooking who watched George and would fill in at baseball and tell stories of his African ancestors.

George's maternal grandfather headed one of the two medical schools in Atlanta which were later combined to form Emory University Medical School. His father had grown up in a small Georgia town.

Dr. Bertram Harvey Wagon, a surgeon, died when George was eight. At the age of 14, he went to Sewanee Military Academy. While he suggests that he was sent because he had become a handful, he appreciated discipline and good education. He is proud of his record. He went to the University of the South (Sewanee) working part-time as a biology instructor while earning an AB degree. His MD (1943) was from Emory. It was wartime and he was in the Army's training program (ASTP).

His internship, assistant and chief residency in medicine and surgery were at Georgia Baptist Hospital, Atlanta.

Active military duty resumed at Carlisle Barracks, Pennsylvania, following which he was assigned to Jefferson Barracks, Missouri and then to William Beaumont General Hospital where he received orthopedic training.

While in medical school in 1940, George married Margaret Linton Smith, a student at Agnes Scott College. After release from the Army, he returned to Atlanta and entered part-time general practice with her father, Dr. Linton Smith.

Because, like Dr. William Ivy, George had been released two months early from his required two years of service, he found himself back in the Army in 1953 during the Korean War. This time he was posted to Whittier, Alaska, as port surgeon.

Then, as now, Whittier was a town without houses. The Buckner Building, which contained almost all the Army operation under one roof, was completed while George was stationed there. He had the fun of setting up the new \$1 million infirmary which consisted of 14 beds, a fine operating room, a dental office, and a laboratory, all munificently equipped. George loved it.

He decided that he wanted to stay in Alaska and corresponded with Dr. Will Chase of Cordova and the Indian Health Service in Juneau. Margaret had spent this time in Atlanta with their two children. However, they visited Prince William Sound one summer and became converted Alaskans.

Following release from the Army in 1955, Dr. Wagon joined the Indian Health Service as a civilian employee and was sent to Kakanak Hospital. He was the only physician there at the time. He found it demanding but nonetheless made field trips to Eskimo and Aleut villages in the Bristol Bay-Wood River areas. Occasionally the U.S. Fish & Wildlife served as air taxi, but many bush pilots assisted in getting "Doc" around and taking patients to and from the hospital. In 1955, George learned to fly. He is still an active pilot and has logged more than 3,500 hours.

Once while flying in mid-winter, his engine failed and he made a forced landing on snow. He anticipated having a leisurely lunch and taking the afternoon off, but no, a friend from Dillingham flew over, landed, and took him home in time for the afternoon clinic. Another time, returning from Togiak, he ran out of gas in head-

winds and had to land at Manakotak which had no landing strip. He "slopped" it into the swamp on wheels and didn't even flip over. Villagers came to tie the plane down. They took the medical gear and set up a clinic. Later in the spring, they used oil barrels as a foundation to construct a board runway to several skiffs. The plane was rolled over this, placed crosswise on the boats, floated downriver to a beach, and finally flown off.

On a trip up the Nushagak River with his son one Sunday, he dropped in on Ekwok and found a woman in hemorrhagic shock from a miscarriage. She was quickly loaded into the Stinson and taken to Kakanak Hospital which had been alerted. Several transfusions and other drastic measures were required, but she survived.

In 1959, George was transferred to Bethel Hospital as medical officer-in-charge. After arrival, he was persuaded by Dr. Stuart Rabeau to join the uniformed Public Health Service as a commissioned officer. He devised a plan for sending physicians on field trips of a week's duration at three major villages, visiting smaller

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"Compared to the world today it was a fantastically happy time. There was baseball in summer and the hope for snow for sledding in winter."

---

places en route. Except during the fishing season, there was always a medical officer out in the bush for three weeks each month. Because Dr. Jean Persons was working half-time in charge of the out-patient clinic, the field program could operate uninterruptedly.

In 1962, George was transferred to the Navajo Reservation at Shiprock, New Mexico for two years to prepare a new hospital for accreditation. He then returned to Alaska to direct Mt. Edgecumbe Hospital at Sitka, and next came to Anchorage in 1968 as Chief of Program Services and Contract Medical Care.

In 1972, Dr. Wagnon was awarded the USPHS Meritorious Service Medal for continuous exemplary performance of duty. He retired from the public health service in 1973.

He soon found himself working with Dr. Robert Fraser's state tuberculosis program, making several field trips. He then involved himself with Dr. Glenn Crawford at Glenmore Nursing Home, eventually becoming physician-on-call.

When Glenmore became Nakoyia, George continued to serve the needs of the home. He also spent several years in the 1980s as physician for the Anchorage Pioneers' Home. After Nakoyia became Our Lady of Compassion Care Center, Dr. Wagnon maintained private patients there until he completely retired from the practice of medicine in 1988.

As he observed hospitals grow, George became dissatisfied with the care of patients in emergency rooms, and in 1970 became involved with the American College of Emergency Physicians of which he is a charter member. He has continued to support this organization and occasionally manages to attend their national meeting.

In 1966 George and Margaret purchased a 15-year old log house on Lake Spenard where they lived after their return to Anchorage in 1968. During remodeling they discovered that it had been one of the fancy "ladies-

of-the-line" houses in Anchorage. The upstairs bedroom had a dark blue ceiling with big silver stars scattered about.

George's younger daughter, Susan, an Eagle River veterinarian, maintains her racing dog team on the Lake Spenard lot. His elder daughter, Edith, lives in Wyoming close to her daughter and grandchildren - George's great-grandchildren. His son, Bertram, is executive director of Alaska Industrial Development and Export Authority.

Margaret Wagnon also ran dog teams but was rewarded with damaged knees. Margaret learned to fly in Dillingham and Bethel in the 1950s. She took advanced flying lessons in Shiprock, but every time she was ready to solo, George got a larger plane. Happily, as reported in Alaska Medicine, Volume 1, No. 4, December 1959, by Dr. Helen Whaley in her column, Muktuk Morsels, "Dr. George Wagnon attended a meeting of the medical officers in charge of the various field hospitals of the Alaska Native Service in early October in Anchorage. He was accompanied by his wife, who took advantage of the trip to take her private pilot's test, so that she can join her husband as a private pilot." Before her death in 1990, Margaret was the assistant manager of Oomingmak, the qiviut shop, and treasurer of the Alaska Sled Dog Racing Association.

George's property on Lake Spenard has eight aircraft float slips. He continues to manage this, as the Eastside Aircraft Security. It keeps him busy enough.

Dr. George Wagnon enjoys special rapport with Alaska Natives and always found it a pleasure to work with them. Responding to his warmth and interest, their respect and affection is mutual.

Gwynneth Gminder Wilson  
Alaska State Medical Association Auxiliary

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## THE LABRETS OF THE NORTHERN "ESQUIMAUX" (1826)

When Captain John Franklin of the British Royal Navy set out in 1825 on his second expedition to the North American Arctic, his plan was to descend the Mackenzie River to its mouth and send boat parties to explore the northern coast of the continent. He himself led the western party, hoping to link up with Captain Frederick W. Beechey of the H.M.S. *Blossom*, who was to trace the northwestern and northern coasts of Alaska from the westward.

Beechey, then a 29-year-old naval officer, had also left England in 1825, reaching northern Alaska the following summer. He established his base at Chamisso Island, deep in Kotzebue Sound, whence he and members of his company were the first Europeans to explore many of the coasts, bays, and inlets of the region. The *Blossom* itself never made it north of Icy Cape, but in a smaller craft the Sailing Master, Thomas Elson, penetrated the ice all the way to Point Barrow and beyond, although he failed to link up with Franklin. Beechey's account of his Alaskan explorations in 1826 and 1827 will form the basis for this and the next two articles in this series. His writings are an important early ethnographic source on the Inupiat, whom he describes with sensitivity and a certain affection.

European explorers to all parts of Alaska were struck by the (to them) curious practice of the Natives of wearing lip ornaments, or labrets, the use of which did not occur regularly in Siberia or east of the Mackenzie River. In the various Alaskan ethnic groups these ornaments took many sizes and forms, and for each undoubtedly had a special ceremonial meaning. The insertion of labrets, of course, required a painful surgical procedure, which in some cases was performed at a tender age. Little is known about who carried out the procedure and by what means, but complications, such as bleeding or infection, must have occurred from time to time.

### [Shishmareff Inlet]

"It was at Schismareff Inlet that we first saw the lip ornaments which are common to all the inhabitants of the coast thence as far as Point Barrow. These ornaments consist of pieces of ivory, stone, or glass, formed with a double head, like a sleeve-button, one part of which is thrust through a hole in the under lip. Two of these holes are cut in a slanting direction about half an inch below the corners of the mouth. The incision is made about the age of puberty, . . . [I]n adults, this

orifice is about half an inch in diameter, and will, if required, distend to three quarters of an inch. Some of these ornaments were made of granite, others of jade-stone, and a few of large blue glass beads let into a piece of ivory which formed a white ring round them. They are about an inch in diameter, but I afterwards got one of finely polished jade that was three inches in length, by an inch and half in width. . . .

### [Near Chamisso Island]

"They were . . . all, without exception, provided with labrets. . . . [T]hey readily disengaged these from their lips, and sold them, without minding the inconvenience of saliva that flowed through the badly cicatrized orifice over the chin, but on the contrary derided us when we betrayed disgust at the spectacle, by thrusting their tongues through the hole, and winking their eyes. . . .

### [Icy Cape]

"The males of this party were all provided with lip ornaments; and we noticed a gradation in the size, corresponding to the ages of the party who wore them, as well as a distinction in the nature of them. Two young lads had the orifices in their lips quite raw: they were about the size of a crow-quill, and were distended with small cylindrical pieces of ivory, with a round knob at one end to prevent their falling out. For some time after the operation has been performed, it is necessary to turn the cylinders frequently, that they may not adhere to the festering flesh: in time this action becomes as habitual as that of twirling the mustachios is with a Mussulman. In the early stage it is attended with great pain, the blood sometimes flowing, and I have seen tears come to the boys' eyes while doing it. . . .

### [Hotham Inlet]

"[Their] appearance and conduct led us to conclude that the large blue glass labrets indicated a superiority of rank, and found, as before, that no reasonable offer would induce them to part with these ornaments."

## REFERENCE

Beechey, Frederick W. *Narrative of a voyage to the Pacific and Beering's Strait, to cooperate with the polar expeditions . . . in the years 1825, 26, 27, 28*. Two vol. (Reprint) New York: Da Capo Press, 1967, 1:341, 343, 384, 458.

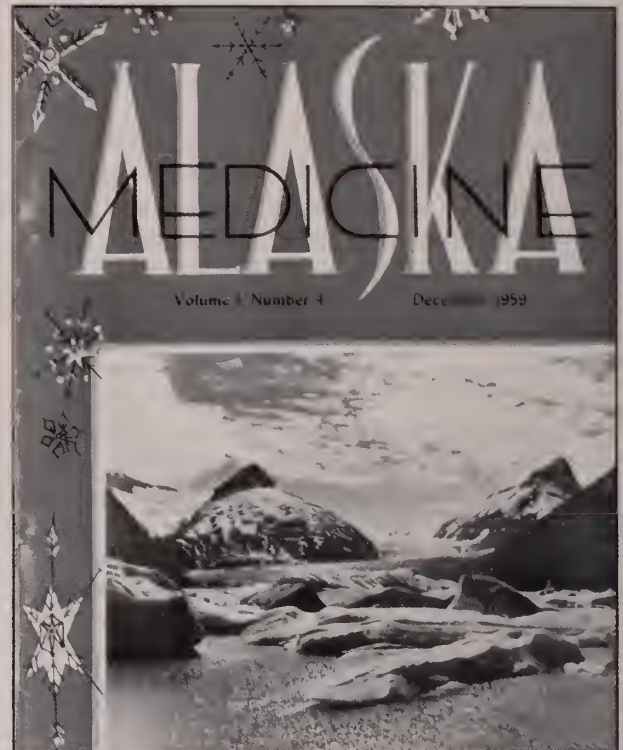
# From Out of the Past -- Over 30 Years Ago

by Gloria K. Park, M.D.



Volume 1, No. 3 Cover

September 1959



Volume 1, No. 4 Cover

December 1959

These issues contained high quality well presented scientific articles; most were very specific to Alaska.



E. M. Scott, Ph.D.  
"A Test for the Enzymatic Deficiency of Hereditary Methemoglobinemia"



Henry Wilde, M.D.  
"The Pathological Physiology of Bone Disease"  
"Recognition of the Wolff-Parkinson-White Syndrome on Routine Electrocardiograms"



J.T. West, M.D.  
"Malignant Echinococcus Disease of the Liver"

[I believe this was the first published Alaskan article on Echinococcus Multilocularis.]

There were 2 articles on how to be a medical witness with a mention of \$4/day fee and 20 cents per mile if travel was necessary. Another article noted the cost of

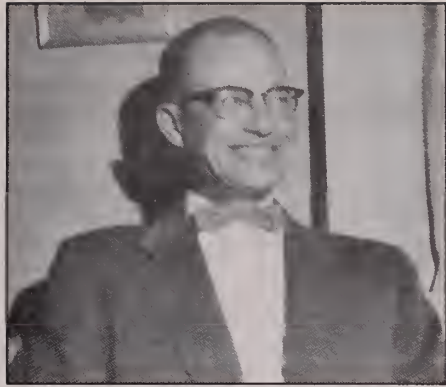
a Bethel to Anchorage flight was \$60. On the editorial page was a guaranteed \$10,000 per year salary for a physician in Valdez to care for up to 250 "valetudinarians" (per Dr. Rodman Wilson). These monetary values are reminiscent of costs in 1959.





J Ray Langdon, M.D.  
"Three Years of Vocational Rehabilitation with Alaskan Mental Patients"

[Reminder of the days when mental patients had to be hospitalized in Morningside Hospital in Portland, Oregon as there was no facility in Alaska.]



Milo H. Fritz, M.D.  
"The Scarred Corneas of Alaska"

In January, 1940, on a blue cloudless day I arrived in Ketchikan, Alaska, just out of an EENT Residency at Duke University Hospital. My wife and I arrived aboard the S.S. Baranof of the Alaska Steamship Co. with six dollars, a 9-year-old Chevrolet roadster, and the promise of a job as the associate of two stalwart general practitioners, Drs. A.N. Wilson and H.C. Turner.

[Dr. Fritz performed the first corneal graft in Alaska in November 1958.]



Michael Beirne, M.D.  
"Blood Alcohol. Yours and Mine"

The last paragraph of the article "Blood Alcohol. Yours and Mine" contained the definition of hootch: "In 1867 when Alaska became American Territory, U.S. Army troops stationed here made booze from sugar and flour and the natives called it "Hootch-inoo"."

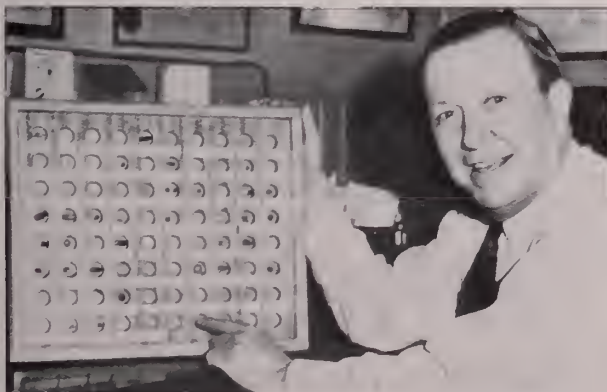


Harriet Jackson [Schirmer], M.D.  
"Tundra Practice: Present and Future"

[First private physician in Bethel]

### EXCERPT FROM AUXILIARY NEWS:

Drs. John and Betsy Tower flew to Haines recently where Dr. Betsy is on the board of Haines House, this being an inpatient house for Eskimo and Indian children. Upon leaving Haines they were able to fly as far as Burwash Landing but clouds then forced them to return. The following day, after another departure, they were again forced to return to the field because of water in the fuel. Dr. John then returned to Anchorage flying alone--reporting good service at both Snag and Northway. Dr. Betsy returned by car!



William M. Whitehead, M.D.  
"A Handy Device for the Identification of Medications"

There were two provocative Letters to the Editor on the Krebiozen controversy -- well written and readily brought to mind the 1959 smoke-filled conferences at Anchorage Medical Society meetings.

\* \* \*

Muktuk Morsels by Dr. Helen Whaley contained several milestones in Alaska medical history: The 2nd annual cardiac clinic was held by Stanford University staff. The Alaska branch of the American Trudeau Society was formed in August 1959.

The Alaska Division of the American Association for the Advancement of Science held its 10th Alaskan Conference.

Dr. Paul Isaak and Dr. John Tower joined the rapidly increasing group of Alaska flying physicians.

Many physicians have become active in community service:

- Dr. Paul Haggland - Mayor of Fairbanks
- Dr. Joseph Ribar - city councilmen, Fairbanks
- Dr. James Lundquist - school board treasurer
- Dr. Harriet Jackson - Mayor of Bethel
- Dr. Jean Persons - Bethel City Council Secretary
- Dr. Merritt Starr - President, World Affairs Council
- Dr. Robert Wilkins - President, Anchorage Concert Association
- Dr. Bill Whitehead - Chairman, Alaska Judicial Council
- Dr. Ed Spence - White Horse Conference on Aging

\* \* \*

"A televised view of the unique practice of medicine in the Far North is scheduled for nationwide presentation sometime during the early spring of 1960. In cooperation with the Alaska Department of Health and the United States Public Health Service's Alaska Native Health program, Smith Kline and French will televise an orthopedic clinic in Bethel on December 9th, 10th, and 11th. Dr. William J. Mills, orthopedic

consultant for the Alaska Department of Health, will head this team. The tentative program outlined is to include views of Bethel, the hospital, and some of the outlying villages. It is planned to include several sequences of the famed medical broadcasts during which school teachers, chemotherapy aids, ministers, etc., in isolated villages call into the Bethel hospital for medical advice for sick village patients. An actual series of orthopedic clinic scenes will be filmed, including the examinations, fitting of braces, and the taking of a history and the explaining of special exercises to the patient and his family often with the help of a native interpreter. The various modes of patient transportation used during the winter, including the bush pilot, and the dog drawn sled, which uses the frozen Kuskokwim River as a highway, will be shown.

\* \* \*

USPHS News mentioned the expansion of field clinics regularly to 22 villages. [This was essentially the beginning of the current Alaska wide field program of the Alaska Area Native Health Service.] Also mentioned were many names still familiar to Alaska physicians today, many of whom started their careers with the Public Health Service - Drs. Stu Rabeau, Carl Sandberg, Ken Fleshman, Stan Hadley, Jack Hepler, Bob Fraser, Bill James, George Wagnon, Mahlon Shoff, Jim Justice, Charles Neilson. Some remained PHS, some went to other federal or state agencies and some went into private practice. [At one time a review of the Anchorage phone book showed half of the physicians were formerly USPHS.]

A review of the drug company ads was also interesting - about half are still listed in the PDR:

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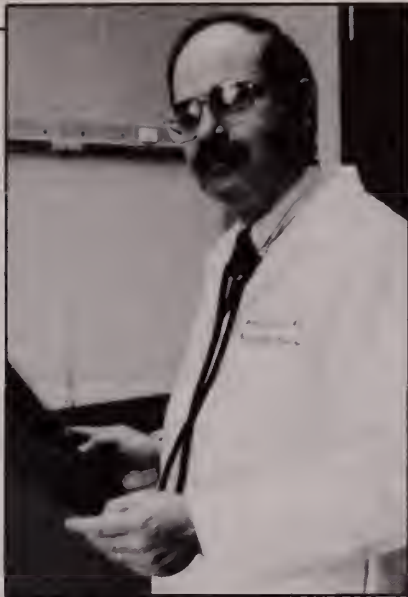
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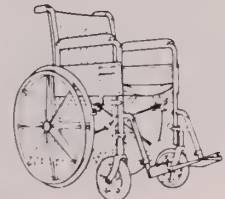
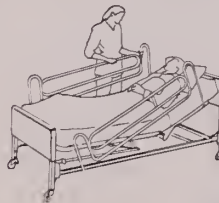
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## President's Corner



The annual meeting in Juneau was interesting. We were treated to an excellent talk by Dr. Tom Wood of Petersburg, which is reproduced herein for everyone to ponder; two dynamic talks by Dr. Gordon Deckert and his wife, Jane, regarding first impression evaluation of patients, and his predictions for the future of medical practice; and a very brief speech by Governor Hickel that was concluded before I could return to my chair. David McGuire, M.D. addressed the House of Delegates at length regarding the ASMA Impaired Physicians Committee and the Citizens' Coalition for Tort Reform (dba Alaskans for Liability Reform). One of our visitors, Dr. Marvin Young, Washington State Medical Association President, opined that ours was the least boring meeting of any society he had ever attended.

Jennifer Christian, M.D. assumed the presidency with a soul-baring speech. I predict that she will have a productive year -- she certainly is attacking the problems with enthusiasm and a good slate of officers to help out along the way.

It occurred to me that during the banquet, I failed to compliment our CEO for his efforts of the last year-and-a-half during which we've been closely associated. Ray has done a superb job and has made the Alaska State Medical Association an important player on the healthcare scene rather than a relatively low-key bystander as we had been in past years. Thanks, Ray, for all your good works -- it's been a pleasure to work with you!

Donald R. Rogers, M.D.  
Immediate Past President, ASMA

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## LETTERS TO THE EDITOR

Dear Editor:

I am writing to you on behalf of my sister, Eileen Albert who was diagnosed as having chronic myelogenous leukemia in September of 1990. She is a 37-year-old registered nurse who lives in Eagle River with her husband Steve and two young children, Matthew and Kyle. As you may well know, CML is a chronic indolent leukemia which may remain relatively asymptomatic for several years while being treated with oral chemotherapeutic regimens. Unfortunately, the disease inevitably transforms into a fatal blastic stage. The only cure for CML is bone marrow transplantation.

All of our immediate family members have been HLA typed for compatibility for potential bone marrow transplant, and none have matched adequately. Eileen has subsequently begun a search of national and international registries potential bone marrow donors, a process which will take several more months.

Although the number of individuals on these bone marrow registries number in the tens of thousands, it is still exceedingly difficult to obtain an exact match of HLA-A, B, and DR genes which is necessary for successful transplantation. With an exact match, one can reasonably expect a 60-70% long-term success rate.

Because of the extremely small odds of finding an exact match among thousands of potential donors, increasing the number of people on the rolls of such registries is essential. Entering the registry requires a simple blood draw and requires \$56.00 in laboratory fees. The process of bone marrow donation requires travel to and from the transplant center, as well as a brief procedure using general anesthesia, during which marrow is harvested from the donor and then immediately transplanted into the recipient. As is painfully clear to me, this seems to be a small price to pay in exchange for giving someone such as my sister the chance to live a full life.

I practiced nephrology and internal medicine in Anchorage for one year during the mid-1980s before falling victim to the economic depression associated with decline of the oil industry in Alaska, and subsequently relocated to California. I left Alaska reluctantly; I enjoyed the land and its people, but I was very impressed by the medical community as well. Specifically I found physicians to be well informed, highly competent, and ethical in their practice of medicine. Because of my respect for the quality of medicine you practice, I appeal to you to support any efforts to recruit more members for bone marrow donor registries. Alaska's people are predominately young and health and would certainly provide a very good pool of bone marrow donors. As a nephrologist I am acutely

aware of the need for organ donation; as a brother of Eileen Albert I am even more acutely aware of the need for recruiting bone marrow donors. The Blood Bank of Alaska is serving as a recruitment center for my sister and other patients in Alaska with leukemia. Donors are registered there every Monday between eight A.M. and noon (4000 Laurel Street, Anchorage 99508, phone # 563-3110), as well as at the American Cancer Society office in Eagle River between 4 and 7 P.M., also on Mondays (phone # 694-1464).

I urge you to support recruitment drives individually by registering yourselves, donating money, disseminating information regarding recruitment drives, or supporting any legislation to facilitate expansion of bone marrow donor drives. Over 500 individuals have already registered as donors in the last few months as a result of our initial efforts. Thank you very much for your consideration. Any help will be greatly appreciated.

Sincerely,

Richard J. Swabb, M.D.

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# ALASKA MEDICINE

Volume 33, Number 3

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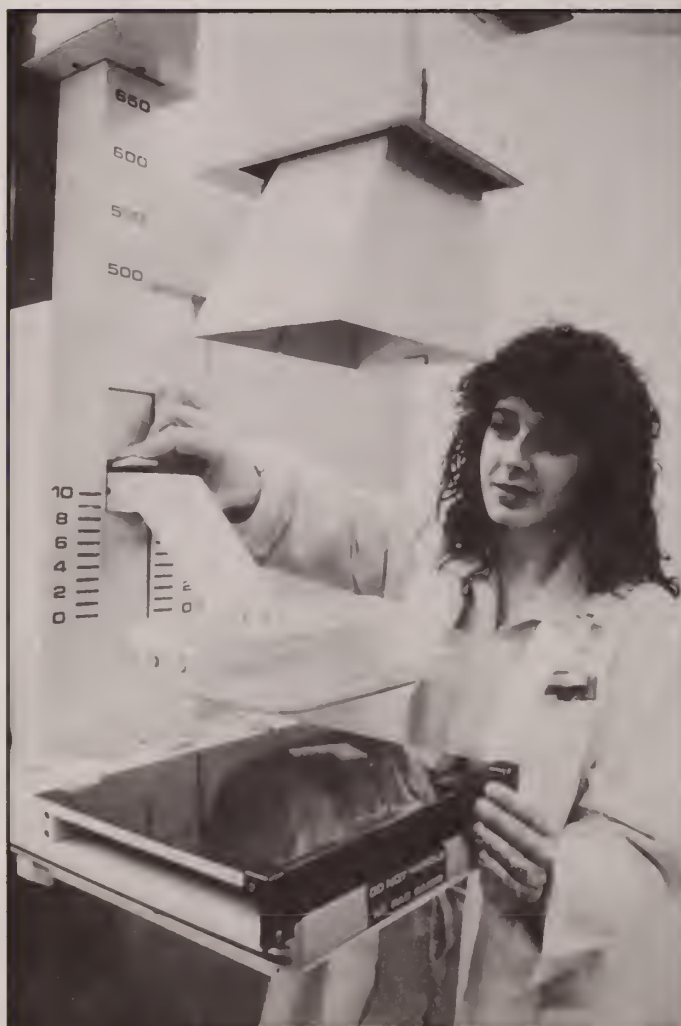
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*by* Congressman Don Young

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About the cover: Berry picking at Atka Island. Photo: Lael Morgan/Alaska Magazine File Photo.

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# Endemic Food-Borne Botulism: Clinical Experience, 1973-1986 at Alaska Native Medical Center

David Hale Barrett M.D.<sup>(1)</sup>

## ABSTRACT

Clinical features are described for 35 cases of endemic food-borne botulism managed at a single medical center over 14 years. Important diagnostic findings included dryness of mucous membranes (90%), weakness (84%), and abnormal pupillary reaction (79%). Sensory examination was normal. Dizziness, dyspnea, and weakness of the extremities were significantly more common in patients requiring assisted ventilation. Transitory neurological deterioration occurred in 38% of patients despite the early administration of trivalent (ABE) equine antitoxin. The short course of respiratory failure suggests that toxin effect is unusually ephemeral with a mean intubation interval of only 8.6 days. Rapid recovery of strength without relapsing respiratory failure followed extubation. Tracheostomy was associated with a high complication rate and was abandoned. Extremely thick, tenacious sputum probably contributed to the high nosocomial pneumonia rate. Empirical antibiotic use to eliminate persistent *C. botulinum* was associated with unacceptably high nosocomial infection rates ( $p < .01$ ). Unexpected significant elevations of blood leukocyte and neutrophil band forms were noted.

## INTRODUCTION

Food-borne botulism is well-recognized as a significant health problem in the native populations of Alaska and Canada. Similar epidemiologic aspects of the disease have been reported in detail for both countries; the extremely high case rate in these small indigenous populations is striking<sup>(1-6)</sup>. Characteristics of the botulism, especially the frequent, small outbreaks in a population at high relative risk, distinguish an endemic form of the disease from the usual sporadic type of food-borne botulism. Endemic botulism in a large number of Alaska Native patients

offered us an opportunity to observe and describe its clinical features.

Existing clinical botulism information has usually been assembled by combining data from sporadic cases; this can magnify the problem of observer variation in isolated case occurrences. Alternatively, data accumulated from a single large outbreak may be affected by homogeneity of population, epidemiology, and clinical circumstance. The unique clinical perspective in this study is provided by the experience of physicians at a single medical center who have diagnosed and managed cases of botulism on an annual basis for 14 years.

## METHODS

### *Sources of Cases and Case Definition*

We attempted to identify every botulism patient admitted to the Alaska Native Medical Center between July 1973 and December 1986. Cases were located through a statewide computerized patient information system searching under the discharge diagnoses of botulism (definite or suspected), food poisoning, or paralytic shellfish poisoning. In addition, an admission log kept by the internal medicine service, Alaska Native Medical Center was searched for the same diagnoses. For all patients found by the survey, we obtained records showing results of botulinum toxin analysis from the Arctic Investigations Laboratory, Center for Infectious Diseases, Centers for Disease Control, Anchorage, Alaska. Only those patients having botulinum toxin in serum, stool, gastric aspirate, or food were considered cases. To be included in this report, the patient's hospital records must have been retrievable; one case was disqualified for this reason.

### *Toxin Analysis*

For each patient, the laboratory evaluation for botulinum toxin was performed by the Botulism Laboratory, Enteric Diseases Branch, Center for Infectious Diseases, Centers for Disease Control, Atlanta, Georgia, using procedures previously described<sup>(7)</sup>. Toxin

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results were eventually returned to the Arctic Investigations Laboratory in Anchorage, Alaska, where a complete record of such data has been maintained since 1973.

#### *White Blood Cell Data: Controls and Cases*

Since 1973 at the Alaska Native Medical Center, total white blood cell (WBC) counts have been performed by machine, and differential WBC counts and determination of percent of band forms by hand. All tests were done by the regular laboratory staff. Each botulism case had WBC and differential counts on admission to the hospital; these data were used for WBC comparative analysis. From the admission log, we identified a WBC control group with similar age and ethnic proportions to the botulism cases. Patients were excluded from the control group if they had any infectious disease or hematologic diagnosis, or had received cancer chemotherapeutic agents within the past six months. Control patients must also have had a WBC count with differential count ordered within 24 hours of hospital admission.

#### *Botulism Treatment in Alaska*

We have described previously the system of botulism surveillance in Alaska, an unusual feature of which is the cache of botulinal antitoxin in several hospitals serving high risk areas of the state<sup>(4)</sup>. Once a suspected case has been identified, we administer trivalent (types A, B, and E) botulinal antitoxin immediately and provide clinical care in one of six small Alaska Area Native Health Service field hospitals or in our facility, the Alaska Native Medical Center in Anchorage, Alaska. Our medical center has a modern intensive care unit, full-time respiratory therapy staff, and 24-hour laboratory services. Because cases of botulism have occurred only in persons eligible for care in the Alaska Native Health Service and intensive care facilities are lacking in the smaller hospitals, we have hospitalized most of the seriously ill patients with botulism as well as many of the less ill at the Alaska Native Medical Center.

#### *Definition of Empirical Antibiotic Use*

Antibiotic use was considered empirical when started within 24 hours of diagnosis of botulism and no other statement of therapeutic need was present in the patient's record.

#### *Statistical Analysis*

Where appropriate, data were analyzed for significance by the difference of means test, t-test, or Fisher's exact test.

## RESULTS

### *Demographic and Epidemiologic Findings*

From 1973 through 1986, we identified 35 cases of botulism hospitalized at the Alaska Native Medical Center. Patients were admitted from 26 separate outbreaks over the 14 year period. At least one case of confirmed botulism was admitted every year except 1978. Eskimos accounted for 28 cases (14 Yupik and 14 Inupiat) and Indians 7 (4 Athapaskan and 3 south-east Alaska Indian).

Botulism was caused by toxin type E in 24 (68%), toxin type B in 8 (23%), and toxin type A in 3 (9%) of the cases. Botulinal toxin was found in the serum of 21 (60%) of our patients. Foods were found toxin positive in 31 (88%) of the occurrences. In two cases, the stool was the only source of toxin; however, in no case was the gastric aspirate the only source of toxin.

### *Symptoms and Physical Findings*

Data were available from 33 of 35 cases for the calculation of presenting symptoms and physical findings (Tables 1 and 2). The average duration of symptoms prior to diagnosis was 2.1 days.

Table 1.  
Presenting Symptoms in 33 Cases of  
Endemic Botulism

<u>Symptom</u>	<u>No. Present</u>	<u>No. Positive</u>
Nausea	27	82
Emesis	26	79
Extremity Weakness	26	79
Xerostomia	26	79
Diplopia	20	61
Dyspnea	19	58
Blurred Vision	14	42
Dysphagia	14	42
Dizziness	10	30
Urinary Retention	9	27
Constipation	8	24
Diarrhea	6	18
Pharyngeal Pain	6	18
Abdominal Pain	2	6
Photophobia	2	6
Xerophthalmia	2	6
Fatigue	1	3
Paresthesia	0	0

Patients who developed respiratory muscle failure requiring assisted ventilation had some significant differences in symptoms and physical findings com-



Table 2.

Presenting Physical Findings in  
Endemic Botulism Cases

Physical Finding	No. Present No. Evaluated	% Present
Dryness of Membranes	28/31	90
Weakness	27/32	84
Pupils poorly reactive to light	26/33	79
Hypoactive bowel sounds	25/32	78
Ptosis of eyelids	19/25	76
Decreased gag reflex	13/20	65
Ocular muscle paresis	15/28	54
Pupils dilated	18/33	54
Hypotension (systolic < 85mmHg)	4/33	12
Fever (>38°C.)	2/33	6
Tachycardia (> 100)	1/33	3
Sensory exam, normal	28/28	100
Tendon reflexes, normal	29/30	97

pared with cases not requiring assisted ventilation. The symptoms of dizziness, dyspnea, and weakness occurred more frequently in the ventilated patients (Table 3) ( $p < .05$ ), while objective extremity weakness was the only physical finding found more often in this group (Table 4) ( $p < .001$ ).

Table 3.

Symptoms in Botulism Cases by  
Tracheal Intubation Status

Symptom	Intubated	Non-intubated	
Dizziness	10/22	0/11	$p < .01$
Dyspnea	16/22	3/11	$p < .05$
Weakness	20/22	6/11	$p < .05$
Dysphagia	10/22	4/11	N.S.*
Xerostomia	18/22	8/11	N.S.
Diplopia	14/22	6/11	N.S.
Blurred vision	9/22	5/11	N.S.
Nausea	20/22	7/11	N.S.
Emesis	19/22	7/11	N.S.

\*N.S. = not significant  $p > .05$

Table 4.

Physical Findings in Botulism Cases by Tracheal  
Intubation Status

Physical Finding	Intubated (22 cases)	Non-intubated (11 cases)	
Weakness	21/21	6/11	$p < .001$
Ptosis of eyelids	14/17	5/8	N.S.*
Ocular muscle paresis	10/19	5/9	N.S.
Pupils poorly reactive	19/22	7/11	N.S.
Pupils dilated	13/22	5/11	N.S.
Decreased gag reflex	7/12	6/8	N.S.
Dry membranes	17/20	11/11	N.S.
Hypoactive bowel sounds	18/22	7/10	N.S.

\*N.S. = not significant  $p > .05$

*Respiratory Complications*

Those patients not already tracheally intubated on admission were subjected to frequent forced vital capacity measurements for the first 24 to 48 hours. All patients developing respiratory failure did so within 48 hours of admission - in some cases within one or two hours. Twenty-three (66%) of our patients eventually required assisted ventilation because of respiratory muscle paralysis. Fourteen of these were managed solely with naso-tracheal intubation for a mean of 8.6 days (range 3-20). Nine cases received tracheostomy after a period of oral- or nasotracheal intubation; with intubation lasting a mean of 15.5 days (range 7-24). In more recent years, as it became clear that few patients needed prolonged tracheal intubation, we abandoned tracheostomy. Weaning from the ventilator was accomplished in most cases by initiating the process when regularly measured respiratory parameters indicated the likelihood of success<sup>(8)</sup>. Patients were generally weaned from respiratory support within 48 hours, with no cases developing a relapse of respiratory insufficiency.

Direct complications of intubation differed remarkably related to the method of intubation. Only one of the 14 naso-tracheal treated patients had a complication (combined sinusitis/otitis), whereas 4 of the 9 tracheostomy patients developed stoma infections, and another had a fatal exsanguination from an eroded innominate artery. No ventilator equipment failures occurred in either group.

Sputum was described as unusually thick and tenacious in 17 (48%) cases. The only patient observed to have thin sputum was also the only one to have been given nebulized acetylcysteine, a putative mucolytic agent.

The initial chest radiograph obtained was abnormal (atelectasis and/or infiltrate) by radiologist's report in 25 (71%) of our patients.

#### *Infectious Complications and Empirical Antibiotic Use*

Thirty of our patients had hospital stays of more than two days; we found pneumonia or urinary tract infections in 18 (60%). The overall nosocomial infection rate for these 30 patients was 83% (Table 5). All patients developing pneumonia had had tracheal intubation; six of the seven patients with urinary tract infection had had an indwelling bladder catheter.

Table 5.

#### Nosocomial Infections in 30 Endemic Botulism Cases

<u>Infection</u>	<u>Number</u>	<u>Percent</u>
Pneumonia	11	37
Urinary Tract	7	23
Tracheostomy site	4	13
Otitis/Sinusitis	2	7
Pharyngitis	1	3

Empirical antibiotic use had been intended to reduce the intestinal persistence of *C. botulinum*. In all but one of these cases, in which lincomycin was used, the antibiotic was penicillin G given in a daily dose of 6-24 million units. An increased number of infections seen in the antibiotic group (20/21) as opposed to the untreated group (5/9) was significant ( $p < .01$ ). The nosocomial risk factors of tracheal intubation and indwelling urinary catheter were evenly distributed in both the treated and non-treated groups.

#### *White Blood Cell Counts*

The total blood leukocyte and total neutrophil band form counts were significantly higher in the botulism cases compared with an Alaska Native control group (Table 6). Significantly higher leukocyte and total neutrophil band form counts were seen also in the intubated group of botulism patients compared with the non-intubated group of cases ( $p < .05$ ) (Table 6).

#### *Clinical Outcome of Botulism*

The case fatality rate for the period was 6% (2/36). The 34 patients remaining were discharged from the hospital without apparent residual deficits.

Of the two deaths, one resulted from an innominate artery hemorrhage caused by a tracheostomy erosion occurring on the eighth hospital day; the other

death could not be considered for this review, since her hospital records had been permanently retired and thus unavailable for analysis. The clinical circumstances of her death, however, were quite familiar to the internal medicine service staff. Several days following extubation, she was found dead in bed after suffering massive aspiration of gastric contents. In retrospect, she had been noted to be eating with some dysphagia, but had no clinical evidence of intestinal ileus or gastric atony.

Table 6.

#### Mean White Blood Cell Counts in Botulism Patients, Hospital Control Patients, and by Tracheal Intubation Status of the Botulism Cases

<u>Patient Groups</u>	<u>No</u>	<u>Leukocytes/uL.</u>	<u>Bands/uL.</u>
Control cases	25	6444*	79+
Botulism cases	35	8940*	974+
Intubated	22	9950**	1283**
Non-Intubated	13	7230**	452**

+  $p < .001$

\*  $p < .01$

\*\*  $p < .05$

#### *Effect of Antitoxin Treatment*

Promptly upon diagnosis, every patient received at least one vial of trivalent (ABE) equine antitoxin (Connaught Laboratories, Ltd. Toronto, Canada). Thirteen (38%) of the cases developed transient deterioration in respiratory effort or increasing weakness soon after antitoxin use. In 8 of these patients, progressive respiratory paralysis requiring intubation occurred a mean of 10 (range 2-24) hours after antitoxin was given. No allergic symptoms were associated with the use of equine antitoxin in any of our patients.

## DISCUSSION

#### *Endemic Botulism*

The endemic nature of food-borne botulism in Alaska resulted in our hospital accumulating 35 cases in only 14 years. In this period, there were approximately 100 cases of confirmed botulism in the state of Alaska, scattered among a number of small hospitals<sup>(13)</sup>. Almost all of the severe botulism patients were referred to the Alaska Native Medical Center, so that our observations may have been affected by the inclusion of these more ill patients. As our experience increased, we came to realize that our cases differed in significant clinical respects from those reported in outbreaks elsewhere.



## *Clinical Features and Diagnosis*

With nearly 70% of our cases caused by type E toxin, it was not surprising that presenting symptoms reflected the high rates of nausea and vomiting often seen in type E cases<sup>(7)</sup>. By comparison to type A or B botulism cases however, ours showed considerably more nausea and emesis, and less diplopia, blurred vision, and dysphagia<sup>(9)</sup>.

Classically, the absence of sensory abnormality has been useful to the clinician in distinguishing botulism from other neuroparalytic syndromes<sup>(7)</sup>, although several recent reports and one review stress the occasional development of sensory abnormalities<sup>(9-11)</sup>. These sensory changes have only been seen in small numbers of toxin type A, B, and F patients and have not been satisfactorily explained by any known effect of the botulinum toxin<sup>(12)</sup>. We found no evidence of sensory abnormalities in our patients.

The proportion of our patients presenting with dryness of mouth and mucous membranes (90%) was considerably higher than previously reported for any toxin type<sup>(7,9)</sup>. Extreme dryness of mucous membranes was such a dramatic finding in so many of our cases that we consider it almost a requirement for the diagnosis of botulism. Pupillary abnormalities (dilated, fixed, or sluggishly reactive) were also seen more often in our cases, but the occurrence of weakness, ptosis of eyelids, decreased gag reflex, and extraocular muscle paresis was similar to reported series of toxin type A or B<sup>(9)</sup>. Deep tendon reflexes were judged to be normal in almost all of our cases, in contrast to approximately half of the type A or B cases<sup>(9)</sup>. Whether this reflects an effect of toxin type E cases on our data, or indicates a difference in physiologic response to the toxin is unknown.

Much has been written in the epidemiologic literature about symptom "triads" or "pentads" that attempt to predict with some sensitivity and specificity the presence of botulism<sup>(5,13-14)</sup>. Unfortunately, these epidemiologic tools are not particularly helpful to the clinician presented with a possible case because no data have been presented showing the predictive value of such criteria. Certainly, botulism fatalities can occur if the physician is too restrictive in making the diagnosis. On the other hand, case fatality rates are low with timely diagnosis and appropriate treatment<sup>(2)</sup>. The clinical index of suspicion for botulism should vary with the prevalence of the disease in the population. We have adopted a high index of suspicion since Alaska Natives have a per capita incidence of botulism more than 100 times the United States average<sup>(15)</sup>.

From the practical clinical viewpoint we consider any of the following to be indicative of botulism in our population: sudden onset of symmetrical paralysis or

weakness without known cause, unexplained nausea or vomiting followed by weakness or dyspnea, or symmetrical cranial nerve deficits without known etiology. Findings highly suspicious for botulism are: dry mouth and mucous membranes, unexplained urinary retention developing suddenly, or severe constipation of sudden onset in patients without prior history of stool disorder. A normal sensory history and examination, normal deep tendon reflexes, absence of fever, and normal mental status examination corroborate and reinforce the specific diagnosis of botulism. We have found this clinical approach very useful; of the 39 patients with a clinical diagnosis of botulism made at our hospital, 35 were confirmed toxin positive. In the same interval we were not aware of any misdiagnosed (and subsequently discovered) cases of botulism.

The symptoms of dizziness, dyspnea, and weakness were found more frequently in patients who eventually required assisted ventilation; extremity weakness was the only objective physical finding more common in the intubated group of patients. It is reasonable to suppose that weakness of the extremity musculature would correlate with respiratory muscle weakness, and dyspnea would be more common in those patients developing ventilatory failure, but the unexpected significant association of "dizziness" with the development of respiratory failure was puzzling. Orthostatic hypotension has been described in botulism patients<sup>(7,16)</sup> and could have produced symptoms of dizziness, but we did not observe hypotension in many of our patients. A neurological etiology of the dizziness is more likely, but whether from a direct effect of the toxin on the eighth cranial nerve or non-specific toxic effects is unknown. Study of a single outbreak of 34 patients with type A botulism also showed extremity weakness to be significantly more common in intubated patients; however, dizziness was not found more frequently in that ventilated group<sup>(17)</sup>.

### *Respiratory Care*

Respiratory complications are a frequent cause of death in botulism, but surprisingly little detailed information is available about ventilatory care of these patients. Many previously described patients with type A or B botulism required prolonged mechanical ventilation, in some cases for months<sup>(17)</sup>. A recent retrospective review found a mean of 58 days of assisted ventilation for type A cases and 26 days for type B cases<sup>(9)</sup>. Based on reported experience of this kind, tracheostomy has been recommended for intubated patients<sup>(7)</sup>. Complications of both routes of tracheal intubation are well recognized<sup>(18)</sup>. One of our tracheostomy patients died from a vascular erosion and four more developed stoma infections. In view of the short

duration of assisted ventilation and the significant complication rate of tracheostomy, we have abandoned this procedure in favor of nasotracheal intubation with low pressure, high volume cuffed tubes. Since the institution of this policy, no serious complications have been observed.

Since botulinal toxin has been shown to block peripheral parasympathetic transmission, it is not surprising that effects of the toxin can mimic those of atropine<sup>(12)</sup>. Anticholinergic blockade with atropine reduces mucus production in healthy persons. Bronchial muco-ciliary clearance is also reduced by anticholinergic drugs in patients without chronic lung disease<sup>(19)</sup>. It seems likely, therefore, that the observation of abnormally viscid, tenacious sputum in many of our patients is an effect of the toxin mediated through parasympathetic blockade. While dryness of mucous membranes has been frequently reported, it is interesting that abnormal sputum viscosity has not been given attention in previous descriptions of botulism. The thick, difficult to expectorate sputum may indeed be much more important, and undoubtedly contributed to the high incidence of atelectasis on hospital admission noted in our patients. One recent patient was treated with a nebulized aerosol of acetylcysteine and seemed to have a significant reduction in sputum viscosity. Further clinical study is needed to assess the effect of nebulized acetylcysteine and to consider the possible use of aerosols of cholinergic drugs to reduce sputum viscosity in these patients.

Because of the short intervals of assisted ventilation in our patients, we found little difficulty in weaning. In none of the 23 intubated patients did we observe a relapse of ventilatory failure. In a toxin type A outbreak which occurred in New Mexico in 1978, many of the intubated patients had considerable dependency on the ventilator (longest 142 days), difficult weaning, and significant relapse of ventilatory failure<sup>(17)</sup>. In a recent type E outbreak from England, prolonged assisted ventilation and severe respiratory complications were also noted<sup>(20)</sup>. Such a dismal ventilatory outcome is not supported by our experience. Milder disease might account for ease of weaning, but we required objective evidence of ventilatory failure before intubation. All evidence indicates that our patients became paralyzed to the same extent; the remarkable difference was in the consistently more rapid recovery.

### ***Botulism Fatalities***

Although deaths from botulism are frequently due to respiratory failure occurring before the diagnosis is made<sup>(9)</sup>, significant problems can develop in the hospital after the disease is recognized. A botulism-related death from massive aspiration of gastric contents

developed in a patient long after good ventilatory status was achieved. The death alerted us to the existence of a potentially lethal long-term swallowing abnormality in some cases. A recent report describes the effects of botulinal toxin on upper esophageal motor function and associated dysphagia with symptoms similar to those of our patient<sup>(21)</sup>. We now delay oral feeding until all symptoms of dysphagia have cleared, and perform barium swallowing studies as needed to detect subclinical aspiration.

### ***Nosocomial Infections***

Botulism patients appear to be extremely susceptible to pneumonia, perhaps on the basis of abnormal sputum and atelectasis. All of our cases of pneumonia occurred in patients tracheally intubated, and most of the urinary tract infections developed in patients who had needed more than three days of an indwelling bladder catheter, a recognized risk factor for such infections. These urinary catheters were necessary because of botulinal toxin induced bladder atony. Reduction in the rate of pneumonia might be possible with sputum viscosity manipulation resulting in more effective clearance of secretions, and it is possible that urinary tract infections could be reduced by intermittent bladder catheterization rather than indwelling catheter drainage.

### ***Empirical Antibiotic Use***

Therapy to destroy viable, toxin-producing *Clostridium botulinum* organisms has been discussed for many years<sup>(4,7,14)</sup>. Recently, the syndrome of "infant botulism in adults" or toxico-infection has been postulated to explain certain features of persistent botulism<sup>(10,22)</sup>. Consequently, the routine use of antibiotics in food-borne botulism may now be gaining favor. Many of our earlier patients were treated with penicillin G intravenously on an empirical basis to reduce persistent organisms. Our data indicate a strong association ( $p < .01$ ) between the use of empirical antibiotic and development of nosocomial infection; consequently, we no longer use antibiotics empirically.

### ***Leukocyte Abnormalities***

Botulism patients have usually been considered to have normal laboratory values for hematologic, serum electrolytes, and serum enzyme tests<sup>(7,22-23)</sup>. One patient has been reported with an unexplained elevated leukocyte count<sup>(24)</sup>. A surprisingly significant association with neutrophil and band form elevation was found in our patients with botulism compared with population controls ( $p < .001$ ). There also appeared to



be a significant correlation with neutrophil band form elevation and need for intubation ( $p < .05$ ). Although hypoxemia can cause leukocytosis and shift to the left, few of our patients were hypoxemic at the time the blood was drawn. Severe stress-related epinephrine release perhaps could cause leukocytosis, but not a shift to the left. Adrenal corticosteroid release could cause both neutrophilia and shift to the left, but would take some hours to develop<sup>(26)</sup>. The usual clinical interpretation of the data would be that the botulism cases were infected; however, only two of thirty-three patients had significant fever and the WBC counts were drawn immediately upon hospital admission, well before nosocomial infections develop.

### *Epidemiological Considerations*

Details of foods and toxin sources in all Alaskan botulism cases have recently been presented<sup>(13,25)</sup>. Two clinically relevant points are worthy of emphasis. First, toxin positive food could be retrieved in almost 90% of our cases. It should be obvious that such toxic food must be quickly identified and removed from possible continuing consumption in order to prevent more cases. Prompt recognition of a botulism case immediately followed by community investigation is required. Second, in two of our cases, stool examination for toxin was the only positive confirmation of the clinical diagnosis. Stool examination has been shown to be helpful in several other outbreaks<sup>(27,28)</sup> and should now be routinely performed in all suspected cases.

### *Botulinal Toxin-antitoxin Interaction*

The botulinal toxin is generally believed to bind firmly, even irreversibly, to its receptor protein on the presynaptic neuron<sup>(12,29)</sup>. The early administration of toxin type-specific equine antitoxin has been reported to reduce mortality in toxin type A cases<sup>(29)</sup>, presumably by forming complexes with toxin before neuronal binding can occur. Another study has shown more than adequate serum levels of antitoxin when used in the same doses and manner as we did in our patients<sup>(30)</sup>. All of our patients received at least one vial of trivalent (ABE) equine antitoxin immediately upon diagnosis. Therefore, the substantial number of our patients who manifested progressive neurological deterioration well after antitoxin was given is surprising. Circulating toxin should have been rapidly bound by the antitoxin, largely preventing further deterioration. Irreversible binding of toxin is very improbable given the rapidity of recovery, especially for completely paralyzed patients. It is possible that the botulinal toxin exerts an effect through reversible interaction with its receptor, and that antitoxin can compete with

this receptor for toxin binding. After the antitoxin has been present in considerable excess for some time, it could gradually remove toxin from the neuronal sites, allowing restoration of function. Either an unusual form of toxin or receptor or both could produce these effects. A recent outbreak in Great Britain of type E botulism originating from Alaskan canned salmon suggests that it is not a more mild indigenous toxin which is responsible, since the botulism cases in this outbreak were severely affected, quite unlike our patients<sup>(20)</sup>. It seems more likely that our patients or their toxin receptors are somehow different. It should be emphasized that whatever mechanism is responsible, it is only relative; the death rates for untreated botulism in Eskimos has been very high<sup>(2)</sup>. We currently use antitoxin in the hope of augmenting recovery, not to prevent early respiratory insufficiency.


Hypersensitivity reactions to the equine antitoxin are frequent in most populations<sup>(31)</sup>. However, we did not see any evidence of immediate or delayed reaction to the antitoxin, nor has any problem occurred with equine antitoxin use in Canadian Inuit<sup>(2)</sup>.

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*The opinions expressed by the author do not necessarily reflect the views of the Indian Health Service.*



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# APNEA MONITORING PROGRAM SUMMARY 1983 THROUGH 1989

Harry Harrison Jr., M.D.<sup>(1)</sup>  
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## INTRODUCTION

The apnea monitoring program (AMP) was organized in 1982 as a response to the increasing number of premature infants experiencing recurrent apnea of prematurity at or around the time of discharge from an intensive care nursery. Prior to the program's inception, these infants remained in the hospital until their recurrent apnea resolved. Often, this meant an additional two to six weeks of hospitalization. The advent of the home cardio-respiratory impedance monitor allowed earlier discharge of this group of infants. Since Alaska did not have a home monitoring program, we conferred with leaders in the field of infantile apnea. We evaluated apnea programs from Children's Hospital & Medical Center, Seattle, Washington; University of California Hospital, San Diego, California; University of Oregon Health Sciences Hospital; Stanford University Hospital, Boston Children's Hospital and decided to amalgamate the best of each centers' experience. Since the founders of the AMP received their special training in Seattle and referred difficult patients to Children's Hospital, many of the protocols were adapted from this center. The major obstacle was securing a funding source. After discussions with the chairman of the Sudden Infant Death Foundation (and noted authority on infantile apnea), a private medical group was asked to underwrite the AMP. Although State funding was denied, there was considerable support in shortening length of hospitalization for intensive care patients. The private medical community supported the AMP by participating in conferences, acting as advisors and accepting early discharge pretermers into their practice. This was vital to the program since we made an effort to keep the infant's primary care in the hands of the local practitioner.

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## PATIENT REFERRALS

There were 1101 patient referrals to the AMP during the period (Table 1). Fifty-seven percent (n=638) were evaluated while in Providence neonatal intensive care unit (PNICU). Referrals increased from outside the PNICU (16% in 1985 to 46% in 1989). The number of infants evaluated reached a plateau in 1986 (n=189) and peaked in 1989 (n=222). Most of the increase in evaluations resulted from two factors: introduction of gastroesophageal reflux (GER) testing, and an increase in referrals outside of PNICU. Twenty-three infants were evaluated for GER in 1986 and increased to 69 (1989), a 300% increase. Of the 355 non-PNICU referrals, 31% originated outside of Anchorage, but were hospitalized in Anchorage during their initial evaluation. Alaska Native Medical Center, Elmendorf Air Force Base Hospital and one private pediatrician made 44% of the non-PNICU program referrals during the study period (Table 2). Repeat home evaluations, using two channel trending equipment, reached a peak in 1989 at 111 studies. These studies were done on infants who were discharged from the hospital on either methylxanthine and/or monitor (our protocols suggest a repeat cardiorespirogram at the end of the therapy).

Table 1.

Year	Referrals	
	Referrals	% Increase
1982	5	0.0
1983	59	1080.0
1984	77	30.5
1985	154	100.0
1986	189	22.7
1987	190	0.5
1988	205	7.9
1989	222	8.3

Table 2.  
Major Referral Sources,\* 1982-1989

	Number	Percent**
Home Trends	200	56
Private Pediatrician	53	15
Alaska Native Medical Center	61	17
Elmendorf Air Force Hospital	41	12

n=355

\*Non-Providence Neonatal Intensive Care Nursery

\*\*Percent of total non-Providence Neonatal Intensive Care Nursery

## DIAGNOSTIC CATEGORIES

Nine major diagnostic categories are included in Table 3. Apnea of prematurity accounted for 100% of the referrals in 1982, but decreased to 41% by the end of the study period (84/222). Importance of GER increased to 20% of referrals by 1989 (41/222) and periodic breathing decreased during this period (peak in 1986 of 21.4% to 16.8% in 1988). Bronchopulmonary dysplasia (BPD) contributed 10% of the referrals throughout the study period. Apparent Life Threatening Event (ALTE) was defined as any cardiorespiratory event which occurred at home, observed by an adult, resulting in cyanosis, regardless whether the

Table 3.

### Major Diagnosis

	Total Number	% of Total
Apnea of Prematurity	351	38.7
Gastroesophageal Reflux	121	13.3
Periodic Breathing	101	11.1
ALTE*	86	9.5
Bronchopulmonary Dysplasia	67	7.4
Sibling of SIDS**	51	5.6
Bradycardia	22	2.4
Apnea of Infancy	20	2.2
Seizures	17	1.9

Total 907 92%

(cumulative)

\*Apparent Life-Threatening Event

\*\*Sudden Infant Death Syndrome

parent sought medical attention immediately. Typically, these infants were hospitalized and evaluated for infection, cardiac arrhythmia, metabolic disorder and seizure. When screening diagnostics for ALTE were normal a cardiorespirogram was done. During the study period, 12% of the AMP referrals were from this source. Home monitoring of sibling of Sudden Infant Death Syndrome (SIDS) contributed 11% of referrals in 1986, but due to a change in our protocols in 1987 there was progressive decline in monitoring this group (0/222 in 1989). Parental anxiety as an indication for home monitoring peaked in 1986 (4.2%), but declined to 0.5% by 1989 due to our efforts to counsel parents before birth of their next child. There was a sharp increase in home monitoring of the post-respiratory syncytial (RSV) infant in 1988 (4.4%, a 350% increase) due to the out-break of RSV during the winter of that year (1). These infants either presented with apnea or demonstrated apnea while hospitalized. Subglottic stenosis, choanal atresia, apnea of infancy, laryngomalacia, seizures, and cardiac arrhythmia were infrequent diagnostic categories.

## HOME MONITORING

Home monitoring was prescribed for infants when their cardiorespirogram did not normalize on methylxanthine or apnea was not amenable to methylxanthine treatment (post-RSV, cardiac arrhythmia, upper airway obstruction, parental anxiety, and ALTE). The AMP protocols recommended monitoring for two to four asymptomatic months. The average monitoring duration was 4.2 months, while the duration of theophylline therapy was 2.5 asymptomatic months. The number of monitored patients was 594, which peaked in 1988 at 112 and averaged 35 monitored infants per month. By 1988, 6.2/1000 live births were monitored, principally for apnea of prematurity, but also for bronchopulmonary dysplasia, ALTE and GER. This compares favorably with published data from Hawaii which monitored 12.3/1000 live births (2). Monitor compliance is difficult to determine, but a quality assurance survey sent to parents in 1986, suggested that compliance improved after the first week of home monitoring, primarily related to our telephone followup and reinforcement of CPR and monitor training skills.

During the study period, there were 17 deaths to infants who had been evaluated by the AMP. Further investigation into these deaths revealed that 9 infants were prescribed a home monitor at the time of death, none (0/9) were actually on the monitor at the time of death. Four of the nine infants had congenital anomalies associated with early mortality (Table 4). Four of the remaining five infants had BPD or an intercurrent infectious illness. Eight infants (8/17) were prescribed



Table 4.

## Patient Deaths (n=17)

	<u>Number</u>	<u>Explanation</u>
1984	1	Information Unavailable
1985	2	Information Unavailable
1986	0	
1987	2	Both were theophylline non-compliant
1988	6	2 congenital cyanotic heart disease 1 positive for RSV* at autopsy 1 unmonitored SIDS** 1 multiple congenital anomalies, including tracheal malacia 1 had normal two channel trend after discontinuing theophylline, suffocated from bedding
1989	6	1 trisomy 18 on monitor 2 SIDS, monitor in home but not in use 1 BPD*** with respiratory infection at death monitor at home but not in use 1 BPD and RSV infection, died in hospital on cardiorespiratory monitor 1 cause of death unknown, monitor in home but not in use

\*RSV is respiratory syncytial virus

\*\*BPD is bronchopulmonary dysplasia

\*\*\*SIDS is sudden infant death syndrome

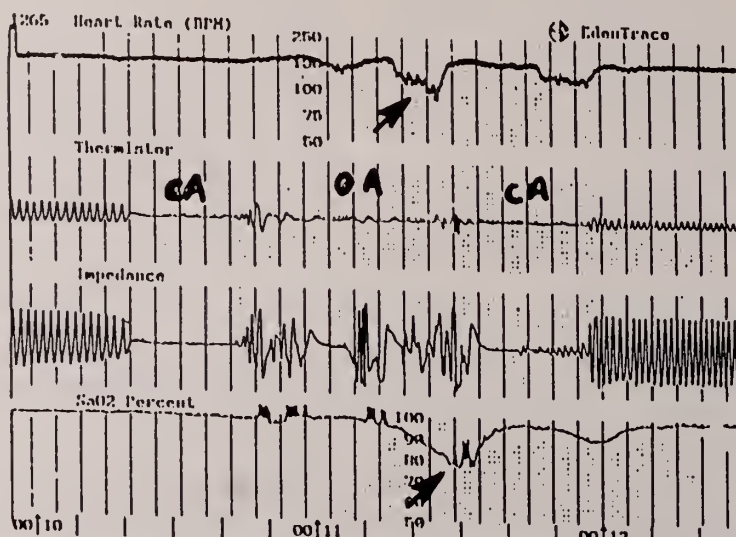
methylxanthine prior to death. Three of these infants (3/8) died prior to AMP follow-up; therefore, the conditions surrounding their death are unavailable. Of the remaining 5 infants, none had an adequate theophylline level (8-12mcg/ml) at the time of death. Two of the five infants died under unusual conditions: one suffocated in bedding, and the other died on a cardiac monitor in a hospital. Three infants (3/17) died as a result of autopsy confirmed SIDS. While none of these infants was a sibling of SIDS victim, each demonstrated apnea prior to death. Similar finding has been previously reported (3).

## FUTURE DIRECTIONS

Although the AMP filled a void in cardiorespiratory home monitoring in the past, it was unable to fulfill the requisites of a complete pulmonary diagnostic program. Notably, obstructive apnea is difficult to determine with two channel trend recording (ECG and respiratory impedance). Since many infants with apnea of prematurity, bronchopulmonary dysplasia and gastroesophageal reflux also experience obstructive events, nasal thermistor or abdominal strain gauge trending is necessary. This requires four or eight channel trending, which must be supported by a technical staff. For this reason, the AMP turned to the monitor

vendor company for direction (4). They have performed multi-channel, physiological trending since 1980 in the Pacific Northwest and came highly recommended by the Regional SIDS program in Seattle, Washington (located at Children's Hospital and Medical Center). Since July 1990, the AMP has been managed by this privately held company, which continue to perform all the diagnostics, home re-evaluations and patient follow-up services. Diagnostic capabilities have expanded to simultaneous trend and event recording of ECG, respiratory impedance, oxygen saturation, end-tidal CO<sub>2</sub>, nasal thermistor, esophageal pH, and abdominal strain gauge. Obstructive apnea, as a result of chronic aspiration syndrome, GER, bronchopulmonary dysplasia, laryngo/tracheal malacia, congenital malformations (Pierre-Robin), recurrent hypoxia, and post-infectious disease (RSV and Pertussis) can be accurately determined by inclusion of nasal thermistor, abdominal strain gauge or end-tidal CO<sub>2</sub> trending (figure 1). In addition, infants with bronchopulmonary dysplasia can be home or office monitored for periods of oxygen desaturation. Expanding clinical applications in cardiorespiratory trending will be directed by medical practitioners specialized in pediatric pulmonology, neonatology and internal medicine through the monitor company.

Figure 1



Four channel recording showing CA (central apnea) with lack of air flow in channel 2 and flat respiratory impedance in channel 3; OA (obstructive apnea) with no air flow at thermistor in channel 2 and respiratory impedance deflections in channel 3. Note heart rate deceleration in channel 1 and oxygen desaturation in channel 4 (arrows).

## ACKNOWLEDGMENTS

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# INTUSSUSCEPTION PRESENTING AS LETHARGY IN A 6-MONTH-OLD INFANT

Kenneth Moss, M.D.<sup>(1)</sup>

After incarcerated inguinal hernia, intussusception is the second most common cause of intestinal obstruction in infancy. Its cause is unknown, and it occurs most often in the first year of life. Intussusception is the invagination of one segment of bowel into another.

In most cases the ileum projects into the ascending colon, the "ileocolic" type. Ileo-ileal and colocolic forms occur less frequently. Males are affected three times more frequently than females.

Although lethargy has been observed as a part of the symptom complex, only recently has attention been drawn to the fact that it may be the presenting, dominant, or only symptom in some patients. A case report is presented to promote familiarity with this atypical presentation.

## CASE REPORT

ML #075948 DOB: 6/8/90 AD: 12/2-6/90

**HISTORY:** A six-month-old white male was admitted with lethargy. He awoke about 8:00 a.m. on 12/2/90, was playful and his appetite appeared normal. His symptoms began shortly after lunch which included applesauce and squash. He had one brief episode of retching, associated with some coughing, but did not vomit. He was in the care of his aunt who thought that he looked pale and lethargic. He was brought to the ER by his mother at 3:00 p.m. Her statement was that "I think he has a stomach ache and he looks pale." He appeared lethargic in the ER.

**EXAMINATION:** The child was "floppy" but responsive at times. He seemed listless but was in no severe distress. He moved his neck well. The chest was clear, the heart showed regular rhythm without murmurs. The abdomen was soft and no masses were felt. Ear exam was normal and the anterior fontanelle was flat. BP was 90/60. The pulse oximeter showed 96% saturation. The rectal exam showed that the rectal vault was empty, there was no mass palpable, and no blood was noted.

**LABORATORY:** CSF showed 0 RBC, 1 WBC. CSF glucose was 98, protein 28. CSF culture showed no growth. WBC showed 13,100 with 48 polys, 14 bands, 32 lymphs, 4 monos. The Hgb was 11, and the Hct was 31.5. A skull x-ray was negative for fracture and other abnormalities. A chest x-ray was negative. A plain film of the abdomen showed scattered gas throughout, but no signs of obstruction. UA showed 2+ ketones but was otherwise negative. The BUN was 11, electrolytes were normal, glucose was 191, and the AST was 44.

**DIFFERENTIAL DIAGNOSIS:** The differential diagnosis included Reye's syndrome, botulism, occult subdural hematoma, sepsis, and intussusception.

**HOSPITAL STAY:** The patient was admitted to the ICU for observation. An IV was started and he was placed on maintenance fluid. Vital signs were monitored. A repeat blood glucose was 117. The child did not pass stool, but after he was given a pediatric Fleet's enema a liquid brown stool was produced which was guaiac positive. Stools for botulism were sent and a urine toxicology screen was obtained.

The child vomited twice about two hours after admission. The morning after admission a right upper quadrant mass about 3 cm in diameter was detected. A repeat KUB film showed air filled loops in the small intestine with a suggestion of a mass on the right side -- possibly intussusception. A BE showed irreducible ileocolic intussusception.

Surgical consultation was called and a laparotomy confirmed ileocolic intussusception. Serosanguinous fluid was found in the peritoneal cavity and bowel was infarcted. The terminal ileum, cecum and a small portion of the ascending colon were resected.

The postoperative course was generally uneventful except for a drop in HCT to 22.5, and HGB to 7.7. At a postoperative visit in the office one week after discharge, the child was doing well.

## DISCUSSION

The classic presentation of intussusception involves children between three months and two years who

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exhibit intermittent abdominal pain, vomiting, blood per rectum (the "currant jelly stool") and abdominal mass<sup>(1,2)</sup>. Other findings may be abdominal tenderness, fever, anorexia, diarrhea and lethargy. Hickey et al<sup>(8)</sup> reported two children, one age nine months, and the other seven months, who presented with lethargy as the only symptom. They also reviewed 23 cases in the literature with lethargy as the presenting and dominant complaint. In these patients, associated symptoms were all referable to the GI tract. Knudsen<sup>(2)</sup> has listed lethargy as a "fifth cardinal sign" (after abdominal pain, rectal bleeding, vomiting, and mass.) In infants, the lead point for the intussusception may be hypertrophied Peyer's patches.

The differential diagnosis in the present case report included sepsis, meningitis, hypoglycemia, electrolyte imbalance, Reye's syndrome, trauma including occult cerebral trauma or subdural hematoma, encephalopathy, intoxication, infant botulism and intussusception.

The pathophysiology of the lethargy in patients with intussusception is poorly understood<sup>(2,3,4)</sup>. One theory is that the patient is affected by toxic metabolites released by compromised bowel. However, no toxic metabolite has been identified and lethargy in patients who are early in the course of disease, presumably with little compromise of bowel integrity, remains unexplained. Tenebein and Wiseman<sup>(5)</sup> have postulated that the level of consciousness and miosis were reflective of endogenous opioid poisoning. They described a case of a 10-month-old male infant with coma and miosis repeatedly responsive to Naloxone. However, two other cases were given Naloxone and did not respond, and the first case reported by Hickey et al<sup>(8)</sup> also did not respond.

When intussusception is suspected, abdominal plain films should be obtained. Abnormal findings will be found in approximately 89% of cases; obviously therefore a normal plain film does not rule out the diagnosis<sup>(7)</sup>. A barium enema using hydrostatic pressure of no more than three feet will be diagnostic and may be therapeutic. From 65 to 75% of cases will be reducible by barium enema. Contra-indications to barium enema are: peritonitis, shock, sepsis, perforated viscus, and free peritoneal air. Hirschsprung in 1905 and his successors, notably Monrad in 1906 and Hipsley in 1926 in Australia systematized enema reduction<sup>(1)</sup>. Barium enema reduction under fluoroscopic guidance was introduced in 1927. More recently Ravitch<sup>(1)</sup>. (1959, 1969) accumulated a large experience with barium enema reduction. A 24-hour follow up film should be taken after barium enema reduction to rule out recurrence<sup>(3)</sup>.

The surgeon and the operating room must be ready to explore if barium enema reduction is unsuccessful.

Intussusception is almost always fatal when untreated. Manual reduction at laparotomy may be successful, but if not, or if gangrenous bowel is present, as in the present case, resection may be necessary.

Most cases do well postoperatively, as did the case reported here. Intussusception is said to recur in about 10 percent of cases treated with barium enema, and in about 3 percent surgically treated<sup>(1,2,8)</sup>.

## SUMMARY

A case of intussusception in a 6 month old with lethargy as the initial and predominant symptom is presented. Children presented to the Emergency Department with otherwise unexplained lethargy should have intussusception as part of the differential diagnosis. A plain film of the abdomen should be obtained. A rectal exam should be done, and a stool checked for occult blood. Radiologic and surgical consultation should be sought simultaneously. Delay in diagnosis and treatment may be associated with decreased success rates of reduction by barium enema, and increased rates of complications of perforation, peritonitis, sepsis, and death.

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# For the Record . . .

## On National Health Care

by Congressman Don Young

In the continuing debate over health care policy in the United States, there is one matter in which all parties agree -- that is our health care system is ailing. But, as with many ailments, the diagnosis is easier than the cure.

The problems facing the U.S. system of health care are multifaceted. Perhaps the most pressing issue, though, is that health care costs continue to skyrocket as exhibited by the fact that national health expenditures are reaching 12 percent of GNP. In 1989 the United States spent more on health care than any other country in the world. This is compared to Canada's \$1,639 (40 percent less than the U.S.) and Germany's \$1,232 (91 percent less than the U.S.). Under current federal policy, health care costs will continue to grow at a rate faster than the general economy and will consume increased shares of GNP. Some health care experts project these costs will be a staggering 20 percent of GNP by the turn of the century. Despite increased expenses,

problems such as infant mortality and preventable death and disease remain unnecessarily high. In addition, and notwithstanding the huge expenditures, our health care system is providing for fewer and fewer people -- at present there are an estimated 35 million individuals who are uninsured in this country.

When we view the worsening trends in our already fragile health care system, it is easy to understand why so many people are advocating a complete overhaul. Many argue that the Canadian system is one to emulate. These proponents assert that Canada provides high quality health care to every citizen -- and it does so at a comparatively low cost.

I do not agree with those who would have Congress transplant a Canadian style system in the United States. There are two overriding reasons for my argument.

First, Canada's health care delivery system is problematic to the extent that it has become commonplace for the ill to be forced to take a number and wait in line until a space is made free for them. I maintain that the Canadian's have trimmed access to high quality health care in a direct relationship to any costs they may have saved in their overall budget.

Second, and most important, the United States health care providers deliver the highest quality service in the world. It seems imprudent at this time to completely turn our back on a system that continues to provide landmark breakthroughs in medical technologies and remains second to none in the fields of education and research.

If the Canadian health care system is generous with basic care, it is stingy with high technology. Delays are intentionally built into the system to ensure that people proceed deliberately and slowly. There are many reasons to believe that Canada's system leads to a deterioration in the quality of care. In particular, the block grant manner in which hospitals are budgeted has even led to the denial of care. To stay within budgets hospitals have resorted to closing beds for part of the year or limiting the number of operations they perform. In fact, hospital administrators under a global budget have a strong incentive to keep patients longer rather

than serving more patients with shorter hospital stays. This is because longer staying patients tend to use more of a hospital's "hotel" services, as compared to the more costly medical procedures.

Canadians are forced to wait for weeks to months for a wide variety of expensive procedures, including advanced radiology exams, heart bypass and brain tumor operations, and the destruction of painful kidney stones through the use of a lithotriper. The supply of specialists and equipment for these procedures perpetually lags behind demand. Long delays are also a result from the scarcity of advanced diagnostic equipment as exhibited by the fact that there are only 15 magnetic resonance imaging devices in all of Canada. The United States, on the other hand, has roughly 2,000 M.R.I. scanners (more than 10 times the number per capita).

Until recently, most of the evidence of declining access and growing waiting lists in the Canadian system has been anecdotal. However, the Fraser Institute in Canada has published the first comprehensive study (the report covers 53 procedures) of waiting lists in the Canadian health system. The results were shocking -- an average wait of 24.6 weeks for a hernia repair, 23.7

(continued on page 139)

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**A complete overhaul to our system would be imprudent at this time.**

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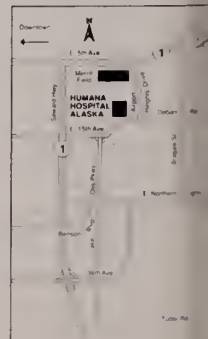




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# Crisis Management: The Dimond Center Freon Leak

by Peter Hackett, M.D.<sup>(1)</sup>

The initial call came over the radio to the Humana Emergency Department as a swimmer with difficulty breathing at the Dimond Center pool. Shortly thereafter, the report indicated two people with shortness of breath, followed a few minutes later by two people in cardiac arrest. There was a flurry of activity over the airwaves, with phrases such as "a cloud of gas in the area" and "they're dropping like flies." The medics on scene and their dispatch stated the problem was a Freon gas leak and told us to expect multiple victims.

As the emergency department prepared to receive patients, I immediately researched Freon on the recently installed computer system in the department. Within seconds I had a comprehensive review of the chemistry, physical properties, toxicology and management of Freon gas exposure. Although we couldn't initially be sure ammonia, chlorine or other gases were not involved, detailed information about Freon was in hand before the first patient arrived in the emergency department.

The first patient had been in ventricular fibrillation, but was successfully cardioverted and was having seizure activity as the medics were enroute. They had secured a patent airway with endotracheal intubation and the patient had pulses and a good blood pressure. On arrival to the emergency department, he was unconscious, thrashing about, was stable hemodynamically and well oxygenated, but had ventricular irritability which responded to IV lidocaine.

Within seconds of the first patient's arrival, we received a call that Providence emergency room had received one patient and was now closed for accepting critical patients. Humana would be receiving an unknown number of victims. A second emergency physician was called in and arrived promptly.

We moved quickly to get the first patient to our intensive care unit. His admitting physician was given the computer's printout on Freon.

The next victim came in with CPR in process. He had not responded to cardioversion and was in asystole. After a short period of further resuscitation he was pronounced dead. He had large areas of what appeared to be burns over the right side of his body; probably

they were cold-injured areas due to the evaporative action of Freon. He may have been lying in liquid Freon for a short time before the gas had a chance to completely evaporate.

Fortunately, most of the critical patients we were prepared to treat never materialized. One patient was admitted with severe hyperventilation syndrome. Altogether, fifteen persons were treated that day at Humana for possible or definite Freon exposure. Most problems were quite minor. The one patient who came in comatose remained in coma for two days, awakened and left the hospital essentially neurologically intact a week later. The same was true of another post-cardiac arrest victim received at Providence..

Humana's Micromedix toxicology computer database revealed the main effect of the gas is due to asphyxia because of displacement of air from the environment. The immediate concern was oxygenation, and the patients needed to be approached as post-anoxic problems.

The next concern was the direct effect of Freon on the myocardium. The chemical is thought to increase sensitivity to endogenous catecholamines such that spontaneous ventricular fibrillation may develop. Whether the victims were in ventricular fibrillation due to asphyxia or toxicity of the gas was impossible to determine. This effect could present a potential problem with the use of epinephrine in resuscitation. In fact, the two successfully resuscitated people were cardioverted without the use of epinephrine. The computer printout also described less serious effects such as eye and nasopharyngeal membrane irritation, headaches, possible skin burns, and some CNS toxicity induced seizures, which could be difficult to differentiate from seizures due to anoxia. The data indicated Freon per se would not have long-lasting effects, that blood levels were nearly impossible to obtain or to interpret, and that hyperbaric oxygen has been considered for therapy but was not clearly beneficial.

Within an hour, the regional EPA office in Seattle put me in touch with an emergency response team at the Center for Disease Control in Atlanta, Georgia. The team included a toxicologist, chemist, and a clinician, all of whom were familiar with Freon. A paramedic who had been on the scene described the accident setting and I discussed the clinical features of the patients with this team. They were able to conclude

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(1)Medical Director, Humana Air Ambulance, Humana Hospital-Alaska, P.O. Box 143889, Anchorage, Alaska.

that no other gas was involved and that these findings were consistent with Freon exposure. They were not able to add information beyond that already available in the computer database.

Industrial accidents with refrigerant gases have been described most often at ice skating rinks, which was true of this exposure in Anchorage. (The actual gas was Racon-22, essentially identical to Freon). Gas had leaked out into the swimming pool area, which was at least fifty meters away, and the only two swimmers in the pool apparently became hypoxic and dyspneic. My impression was that workmen were trying to repair the leak when they were overcome by asphyxia and/or toxic effects of the gas in the compressor room.

Much can be learned from this episode, and it highlights a number of important issues for the community. One issue is that of public safety. Fortunately, the accident was early in the morning and the mall was not very populated. Employees stated that it was unusual for only two people to be in the swimming pool at that time. The gas leak was quite large and many more could have been asphyxiated as the gas seeped throughout the rest of the large shopping mall. Evacuation was orderly and seemed to be successful, although some people were apparently left in the building. The mall was closed for the rest of the day. In fact, the Freon leak continued for a number of hours before a volunteer knowledgeable about refrigerant systems entered the area wearing a respirator and was able to shut off the flow of gas and repair the defective valve.

Another important issue is that of paramedic and rescue personnel safety. Firemen who responded to the scene and entered the compressor room where the Freon gas concentration was greatest were fully clothed and using respirators. They experienced only some overheating and exhaustion, but no true toxic gas exposures or asphyxia. The paramedics, on the other hand, were neither properly clothed nor wearing respirators. When one medic knelt to intubate a patient he quickly became hypoxic and nonfunctional; when he was helped to stand, this cleared. Apparently the concentration of gas was highest closest to the floor and resulted in acute asphyxia near the floor but not at standing head level. The paramedics were in a most precarious situation. While donning the proper respiratory protection and clothing would have resulted in delay of patient care and probably loss of more life, the medics were pushing the very margin of safety and it was most fortunate that none became dangerously hypoxic or suffered ventricular fibrillation.

Direct patient care was straightforward. Decontamination was not necessary because the volatile gas was essentially gone from all clothing and skin when patients arrived at the hospital. There was no specific antidote, and we were left to deal primarily with post-

anoxic encephalopathy. Humana was very well prepared, with adequate staff, supplies, equipment and space to care for more victims than were actually received. This is somewhat comforting, but at the same time made us realize that a dozen people in ventricular fibrillation would have been much different.

The Anchorage EMS system was severely stressed. The paramedics delivered excellent care in a timely manner, but all available ambulances were in use, and more victims would have resulted in a delay in transport. Other resources from the private sector and the military need to be rapidly mobilized in similar future events. The importance of engine companies was reinforced by their role in removing victims from the toxic area.

Another lesson learned was the need to more effectively use the local media. Newspaper reporters who arrived at the hospital were given a summary of the computer printout, and they used the information in their reports the next day. Other media could have used the material the same day. A press conference staged as soon as possible with a physician or designee would have reassured people who had been at the mall that there were no long term toxic concerns with Freon. Information about the minor oropharyngeal and eye irritation through the media may have resulted in fewer unnecessary calls and visits to the emergency department. Many people who were not even in the area were afraid that Freon had travelled downwind and caused their headache, stomach ache, sore throat, or other symptoms. Phone lines in the emergency department were busy all day; the nurses were constantly reassuring citizens who could not possibly have had a toxic exposure. Numerous patients came in later that day to be evaluated for possible toxic effects of the gas, and the other emergency department had a similar experience. The general finding was that concerns were unjustified. Properly done media interviews may help allay community "hysteria" with the next similar event.

We also need to improve our communications within the profession. The computerized information may have been helpful to Anchorage EMS personnel, other hospitals, and other physicians who were getting calls from patients. The availability of the CDC response team and their information also needed to be disseminated. This was difficult to accomplish without having a person or some agency assume these responsibilities.

In summary, the Freon exposure at the Dimond Center helped awaken the community to disaster response needs. Although this episode was handled well, and all patients received excellent care, it served to heighten awareness that the emergency response system does have its limitations. Other important lessons were how to better use the media, and the benefit of an on-line extensive toxicology database system.



## FROM THE COMMISSIONER

Since territorial days Alaskans have recognized the family as the cornerstone of our society. We have always considered social services for families and children essential. If we are to maintain the quality of the life we enjoy as Alaskans, we must make a collective commitment to an Alaska of whole, strong, healthy families and positive, vibrant young people.

It's an unfortunate aspect of modern life that many children are abused, neglected or are living in circumstances where they do not receive adequate care in the homes of their parents.

In some cases children must be removed from unsafe circumstances while problems at home are worked out. A child from such a home may be placed temporarily in foster care. The ultimate goal in each case is, of course, the reunification of the family. In cases where that goal is impossible, children will be placed in some other permanent and safe home situation.

A vital part of Alaska's foster care system is the special group of Alaskans who become licensed foster care parents. These outstanding Alaskans are ordinary citizens whose lives reveal extraordinary individual commitments to the well-being of families and children. Alaska's foster parents are true heroes. They deal with the problems facing children who have been abused and neglected. Some of those children have been exposed to alcohol or drugs while still in their mother's womb. Some have never had the home structure to

teach them how to get along in our society. Foster parents nurture, guide and teach, making a difference in the life of a child or young person, with full understanding that their role is transient in that life.

Many children in foster care today need not only a safe and loving environment, but special help to deal with behavioral, emotional, physical or developmental difficulties. These special needs can make foster parenting frustrating and complex. Despite the difficulties, foster parents find genuine reward through their efforts; bringing hope to the life of a child, changing the direction of a young life in peril, making a vital contribution to the success of an Alaskan family and contributing immeasurably to a better Alaska.

The need for more foster homes in Alaska is critical. Over the last 12 years, that need has increased three times as fast as the state's population has grown. This year, I am proud to say, your Department of Health and Social Services launched a state-wide campaign to call more Alaskans to the challenge of foster parenting. The physical and mental health of Alaska's children must remain one of our top priorities. Our state and our children deserve no less.



Theodore Mala, M.D.,  
Commissioner of Health  
and Social Services

## SMOKING IMPACT STUDY RELEASED

Anchorage - - - The Alaska Department of Health and Social Services, Section of Epidemiology has released a study on the impact of smoking in Alaska for the year 1989.

The research indicates that of 2,092 deaths in Alaska in 1989, 351, or 16.8 percent were estimated to be smoking-related. By way of comparison, that same year 352 deaths were due to vehicle accidents and all other unintentional injuries.

The impact of smoking on deaths in Alaska was five percent higher for males than females (18.6% for males, 13.6% for females). According to the study, among Alaskans over 35 years of age, 22 percent of deaths were attributed to cigarette smoking.

The study estimates the cost of smoking in 1989 for Alaskans over 35 years of age was \$83.6 million. That figure includes \$34.1 million for direct costs (prevention, detection, treatment, etc.), \$38.4 million in indi-

rect costs due to smoking deaths (incomes forfeited by those who died prematurely from smoking-related causes), and \$10.7 million for indirect morbidity costs (lost earnings and productivity for those disabled by smoking-related diseases). The total cost in 1989 for every Alaskan (smoking and non-smoking) over the age of 35 came to more than \$170 per person.

"Smoking deaths are preventable. Stopping smoking at any age will help reduce the risk of premature death," said Dr. John Middaugh, Chief of the Section of Epidemiology. "Anything we can do to reduce smoking by Alaska's population will result in better health and reduced costs for all Alaskans."

For more information, or a copy of the Epidemiology Bulletin reporting the smoking impact findings, please contact the Department of Health and Social Services, Section of Epidemiology at 561-4406, or Edward Wicher at the Office of the Commissioner, 561-4211.

# SAFER SEX...

## NOT JUST FOR DISEASE PREVENTION

By Mary B. Cavalier, M.S.<sup>(1)</sup>

There is more to safer sex than meets the eye. Just ask a diabetic patient who no longer obtains an erection, or a paraplegic who doesn't have feeling below the waist. Both of these people may consider themselves very sexual. How? Due to life events, they had to force themselves out of the paradigm of penis/vaginal sex. And this is exactly what safer sex guidelines are designed to do - shift our thinking about what is sex.

### WHAT IS SAFER SEX?

In terms of sexual transmitted disease (STD) prevention, safer sex is the avoidance of the exchange of semen, vaginal fluids, and blood between two people. This broad and most conservative definition may protect an individual from not only HIV but other STDs, such as herpes, gonorrhea, etc.

It is important to remember that STDs such as herpes, gonorrhea, syphilis, etc. can be transmitted to other parts of the body. For example, herpes can be transmitted to the eye when one touch a genital area infected with HBV than rubs his or her eye.

To keep it simple though, the following are safer sex guidelines of STD prevention, mostly HIV.

### UNSAFE OR HIGH RISK

- Vaginal and anal sex without a condom and spermicide
- Fellatio without a condom
- Cunnilingus without a barrier such as a dental dam or plastic wrap
- Anilingus without a latex barrier
- Sharing of IV drug needles, including needles used for steroids

### PROBABLY SAFE, POSSIBLY RISKY

- Vaginal and anal sex with a condom and spermicide
- Fellatio with a condom
- Fellatio without ejaculation
- Cunnilingus with a latex barrier
- Anilingus with a latex barrier
- French kissing

### MORE THAN ONE WAY...

Intercourse is traditionally viewed as the only way to have a sexual experience. The acts associated with intercourse are also the ones which puts one at the greatest risk for STDs, including HIV. It is through the AIDS epidemic that a wider spectrum of sexual expression has come out of the closet.

Because our society is so intercourse focused, it is difficult for many to realize there are different sexual experiences which can be just, if not more satisfying

### SAFER SEX GUIDELINES

#### SAFE OR VERY LOW RISK

- \* Flirting
- \* Hugging
- \* Phone sex
- \* Dry kissing
- \* Body Rubbing
- \* Sexual fantasies
- \* Bathing together
- \* Sensuous feeding
- \* Sex movies, videos and tapes
- \* Masturbation (mutual or solitary)
- \* Using sex toys (please don't share)
- \* Sex talk (romantic, 'talking dirty')
- \* Body licking (on healthy, clean skin)
- \* Exploring S.T.D.'s (sensate therapy devices)
- \* Reading to each other erotic books and magazines
- \* Body massage (including erotic and nongenital oral massage)
- \* Consensual exhibitionism and voyeurism (showing off and watching)
- \* and there are a lot more . . . use your imagination !!!

<sup>(1)</sup>Robert Alberts, M.D. & Associates, 3340 Providence Drive, Anchorage, AK 99508.



than intercourse. That is why the spinal cord patient feels hopeless, the diabetic believes he needs to give up sex, the person being treated for high blood pressure resigns himself to not being sexual.

Unfortunately, sexual education often focuses on what one can NOT do (just say no!) -- the limitations. It can be very enlightening for the patient to learn that there is a broad spectrum of sexual experiences. Using the safer sex guidelines with your patients who are experiencing a shift in their sexuality due to health reasons can open a whole new door for them and their partners.

### BUT IT'S NOT THE SAME . . .

When a shift in the paradigm of what sex is needs to occur, a person and/or couple may go through a grieving process. The fact is that sex will not be the same. That does not mean it has to stop. So instead of getting lost in the "don'ts and won'ts", JUST SAY YES to broader experiences and perhaps more fulfilling expression of sexuality!

### RESOURCES

Ted McIlvenna, M. DIV, PhD, Editor. The complete guide to safe sex. Specific Press, CA 1987.

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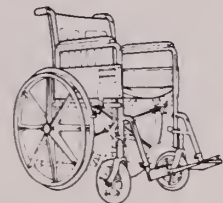
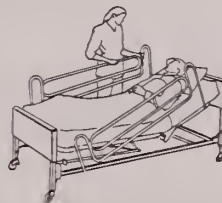
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# American Society for Circumpolar Health

SUMMER 91

It is official! The Albrecht-Milan Foundation of the American Society for Circumpolar Health is a reality. Throughout the winter and spring a dedicated group has built on the recommendations of the special committee of the Board. Several years ago, it was decided to honor both Dr. C. Earl Albrecht and Dr. Fred Milan with a permanent entity. The Board agreed that we needed a source of funding for the Society's activities and so a committee was formed to look at the possibilities. Drs. Helen Beirne, William Mills, and Frank Pauls recommended that we work toward establishing a foundation and suggested a company with which to work.

Now that the articles of incorporation have been filed, IRS tax exempt status in process, bylaws approved, initial trustees seated, and acting officers elected, it was time to kick off the Foundation. When it was learned that Dr. Albrecht would be in Alaska in the summer we all agreed that this was the time. A celebration would be held for both Drs. Albrecht and Milan. Their friends and colleagues would be invited to share their greetings and support.

Each of you received an invitation to the kick-off event. A reception was held at the Williamson Auditorium on the University of Alaska campus on July 14, 1991. Unfortunately Dr. Fred Milan was ill and could not make the trip to Anchorage. Dr. Earl Albrecht was there and deeply moved at this tribute.

About 150 people attended. There were many people from the Matanuska Colony including "babies" that Dr. Albrecht had delivered fifty some years ago. Each of the two men received special citations from Governor Hickel through Bob Clark, Deputy Commissioner of Health and Social Services. Mr. Clark expressed that these two men were not only the pioneers of circumpolar health, they were the creators,

architects, and planners that were responsible for the genesis of this movement.

Greetings were given by Dr. J.P. Hart Hansen, President of the International Union for Circumpolar Health. He also brought letters of support from many of our Scandinavia colleagues. Dr. Jean Goodwill, President of the Canadian Society for Circumpolar Health, likewise brought greetings from our colleagues to the east.

Chancellor Donald Behrend, of the University of Alaska Anchorage officially announced the opening of the office of the International Union for Circumpolar Health on the campus. He also accepted the donation of the Albrecht Library for the University. Dr. Albrecht's documents regarding his work with the board of Regents will be housed at the University of Alaska Fairbanks, while his materials on health issues as the Valley doctor, Commission of Health for the Territory and State, and Circumpolar activities will be housed in the Health Science Library at the University of Alaska Anchorage.

We wish to thank the reception sponsors: Robert B. Atwood, Miriam Hilscher, Lloyd W. Hines Family, Odsather Family Trust, Leah J. Peterson,

Elmer and Mary Louise Rasmuson, Drs. John and Betsy Tower, and the University of Alaska Anchorage. It was a fun day, full of history, and dreams for the future.

The Albrecht-Milan Foundation is small and needs your attention. We are still looking for trustees for the governing board. We would like to attract individuals from the insurance, finance, and banking industries to assist with the management of the funds that will be raised. If you know of individuals who may be interested please let the Board know and we will provide



Earl Albrecht, M.D. Photo by David Predeger.



them with detailed information on the organization. In addition we are also looking for individuals who wish to take a leadership role. Dr. Helen Beirne has agreed to chair the Foundation until regular elections can be held. We need individuals who are willing to use their talents to raise and manage funds for our Society.

The Albrecht-Milan Foundation also needs your direct help. It takes money to make money is the old saying. The Society has now created a mechanism for you to make tax deductible donations for the betterment of circumpolar health. We will be sending out information on how you can establish trusts which will benefit the Foundation, or how you can provide for a gift in your will. The key at this time is start-up funding. Please consider the Albrecht-Milan Foundation this year as a worthy group for your contribution. As the fall employee giving campaigns begin, remember that you may give to this Foundation through the Donor's Choice selection in the statewide Alaska Community Share or Anchorage United Way Campaigns.

Other news. The 9th International Congress for Circumpolar Health will take place in Reykjavik, Iceland on June 20-25, 1993. Put that on your calendar. The University of Iceland will host the Congress with five modern and well equipped convention halls on the campus only a few yards from a school for poster sessions and the Hotel Saga with smaller meeting rooms and dining facilities.

The scientific program will focus upon the present priority areas of the Nordic Council for Arctic Medical Research, i.e. primary issues of cold research and accident (injury) prevention, and secondly, of environmental medicine and family health. The Native program will be organized under the direction of their new Minister for Health and Environment in Greenland, Inuit Dr. Ove Rosing-Olsen.

The Council of the International Union for Circumpolar Health, of which Dr. John Middaugh and I represent the American Society, will be meeting in mid-February 1992 with the Icelandic / Greenlandic organizing committee. If members have concerns, questions, or comments about the planning of the 9th Congress

please contact Dr. Middaugh or myself prior to the February meeting. We will gladly find out whatever information we can. I do have a direct contact FAX and telephone if you wish to send your ideas directly, however I would like the Society to act as a funnel to the Icelanders. There will be a need for individuals to work from our Society as representatives for the International, Scientific, and Native advisory planning committees. We are also in need of recommendations on key note speakers, and session chairs. These names will be shared at the February meeting so that the organizers know what resources are available to them.

The Icelandic Nurses Association is being involved at the earliest time and we need to know who from the American Society would like to be the contact for the Alaska Nurses Association. This will be true for the other specialties as well; Dietitians, Health Educators, etc. who have their own groups but who also will want to coordinate through the Society for assisting in the 9th ICCH.



Bob Clark presenting Dr. Albrecht with a special citation. Photo by David Predeger.

In light of the planning that is required for such a Congress the American Society is beginning to look to 1996 when the Congress is to be held in Alaska. We need interested members to make themselves known to the board now. It is early, however we need to begin to look at facilities now; that means a facilities coordinator who will work with the Society to assure a top quality meeting. We need people who are interested in raising seed dollars and support for hosting such an international meeting. We need people who will come up with a logo, a slogan, a program, a design for the events. We will need an editor for the proceeding. We will need community hosts for

the 1,000 visitors we can expect who will be attending. We need ideas for how to improve on the earlier Congresses.

If you have energy, ideas, and enthusiasm for the International issues around circumpolar health we need you starting now. Please provide any board member with your ideas and comments. Give us feedback if you have attended other Congresses or other large international meetings; what worked, what did not. We need to know what were the high points as well as

what were the low points. The only way we can host a meeting like we did in 1984 is to begin working on it now. This is your Society, we all need to take part of the responsibility in assuring a successful 10th ICCH.

Our Annual Meeting is being planned. It is scheduled for November 21, 1991 as a luncheon meeting during a one day workshop on Tobacco use in the Arctic. The American Society for Circumpolar Health, the International Union for Circumpolar Health, and the State of Alaska will be co-sponsoring this one day program of scientific papers. It will be offered in conjunction with the Alaska Council for Alcoholism and Drug Abuse annual training meeting and will provide continuing education credits.

The Board is a small group of individuals who are representing our Society on a broad international base. We need to involve all of our members in these efforts. The support we can give the Icelanders and Greenlanders for the 9th ICCH will help us all prepare for the activities of hosting the 10th ICCH. It is clear that the

exchanges of information and cooperative research that has resulted from these meetings are not just for that day or that year. The proceedings have become an invaluable permanent record of the breadth and depth of research in the circumpolar region. The relationships that are developed during these meetings have built the foundations of cooperative research, joint programs, and professional exchanges.

You will be hearing much more on these topics in the coming months. The Board will be most interested in those who voice an interest in helping out and becoming involved. My last letter to the membership brought two individuals to write and contact me about running in the election for becoming Board members and to become more active participants. The Board needs to hear from you on how you wish to be involved. Please let us know. After all, it is your Society and we must know your concerns to best represent you on the international scene.

Carl Hild

#### American Society for Circumpolar Health -

My congratulations to the important initiative of establishing an Albrecht-Milan Foundation of the American Society for Circumpolar Health, intended to contribute economically to the programs and projects of the Society.

I find it most appropriate that the name of the Foundation includes the names of Albrecht and Milan. I know personally Earl Albrecht and Fred Milan from previous international Circumpolar Health meetings. Their great interest in understanding the needs of people living in the Circumpolar regions and their commitment and dedication in promoting the health care of these regions has impressed me and also inspired work along similar lines in our Nordic countries.

When organizing the 7th International Congress of Circumpolar Health in Umeir I appreciated the support by Earl Albrecht, based on his idealistic interest in Circumpolar Health problems and the improvement of the living conditions of circumpolar people. Fred Milan, who spoke a little Swedish since his work in

Swedish Lapland, made great contribution together with Earl Albrecht in the development of the International Circumpolar Health meetings and not the least in his work of organizing the 6th International Symposium on Circumpolar Health in Anchorage.

I wish that the Albrecht-Milan Foundation will become of great help in promoting the goals of the American Society for Circumpolar Health. Being minorities it is not easy for Circumpolar people to attract the interest of Governmental politicians to offer sufficient resources for their needs of improving health conditions. Therefore initiatives of interested individuals in raising funds for these purposes are especially valuable.

With greetings,

Håkun Linderholm  
President of VIIIth ICCH  
Professor of Medicine





# The Commitment Continues

- *To be there* when you and your patients need us — allowing Alaskans to *stay in Alaska* for their care.
- To join with you in an effective effort to improve the health care environment of our state.
- To work towards better and more efficient ways to be of service to you.



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## AXID® (nizatidine capsules)

**Brief Summary. Consult the package insert for complete prescribing information.**  
**Indications and Usage:** 1. *Active duodenal ulcer*—for up to 8 weeks of treatment. Most patients heal within 4 weeks.

2. *Maintenance therapy*—for healed duodenal ulcer patients at a reduced dosage of 150 mg h.s. The consequences of therapy with Axid for longer than 1 year are not known.

**Contraindications:** Known hypersensitivity to the drug. Because cross sensitivity in this class of compounds has been observed, H<sub>2</sub>-receptor antagonists, including Axid, should not be administered to patients with a history of hypersensitivity to other H<sub>2</sub>-receptor antagonists.

**Precautions:** *General*—1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Dosage should be reduced in patients with moderate to severe renal insufficiency.  
3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

**Laboratory Tests**—False-positive tests for urobilinogen with Multistix® may occur during therapy.

**Drug Interactions**—No interactions have been observed with theophylline, chlorazepoxide, lorazepam, lidocaine, plicefen, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

**Carcinogenesis, Mutagenesis, Impairment of Fertility**—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

**Pregnancy—Teratogenic Effects—Pregnancy Category C**—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers**—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

**Pediatric Use**—Safety and effectiveness in children have not been established.

**Use in Elderly Patients**—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

**Hepatic**—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible after discontinuation of Axid. Since marked introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid.

**Cardiovascular**—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects.

**CNS**—Rare cases of reversible mental confusion have been reported.

**Endocrine**—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

**Hematologic**—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another H<sub>2</sub>-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

**Integumental**—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

**Hypersensitivity**—As with other H<sub>2</sub>-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

**Other**—Hyperuricemia unassociated with gout or nephropathias was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

**Overdosage:** Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.


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### References

1. Data on file, Lilly Research Laboratories.
2. Scand J Gastroenterol 1987;22(suppl 136):61-70.
3. Scand J Gastroenterol 1987;22(suppl 136):47-55.
4. Am J Gastroenterol 1989;84:769-774.

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*Destroy the records of patients:*

- \* \* \* deceased for eight years or more, when death was unrelated to care.
- \* \* \* who have not been seen for eight years or more, and whose treatment was for minor problems.

*Retain the records longer if the patient:*

- \* \* \* suffered complications of treatment or surgery.
- \* \* \* died during the course of treatment.
- \* \* \* was treated for cancer or heart disease.
- \* \* \* had traumatic injuries that could or did result in major disability.
- \* \* \* was a minor; a minor's records should be kept until the patient reaches the age of majority.
- \* \* \* was being followed for a pregnancy.

- » *Store inactive files in a permanent storage space to which you have access.*
- » *When destroying files, do so in a manner that preserves confidentiality.*
- » *MIEC recommends that medical office records be retained a minimum of eight years.*

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# History of Medicine in Alaska

## THE FRASER M.D.'S: ROBERT & SHIRLEY

Since 1140 A.D. there has been a Robert Innes Fraser and the current one lives in Alaska. The 17th Innes was born in 1930 in Philadelphia. The Fraser family had emigrated from Scotland to Canada where Bob's father was born. After he became an American citizen, the family moved around the east coast. Bob's childhood memories center around Cantonsville, Maryland, where he still has friends. He graduated from Western Maryland College and Jefferson Medical School.

Shirley Heeter was born in Clarion, Pennsylvania. Her mother, Frances, who recently moved to Anchorage, hopped into the interview long enough to remark that by age ten Shirley was interested in medicine. Her father was a dentist and since there were no boys in the family - an important factor in women asserting themselves - she was encouraged to pursue her interest. She graduated from Allegheny College and the University of Pennsylvania Medical School, the oldest in the United States.

To this day they argue fiercely as to which Fraser attended the better medical school. Shirley declared hers outstanding, and Bob recalls the terrifying dean and chairman of the department of anatomy at Jefferson who memorized the pictures submitted in application so that he could identify the class individually from the beginning.

At Christmas in his third year in medical school, Bob Fraser wrote to Dr. Earl Albrecht, the territorial commissioner of public health, who offered him a summer position at Mt. Edgecumbe hospital, Sitka, Alaska.

Bob had a rotating internship at Pennsylvania Hospital, Shirley at Cincinnati General. Shirley did not enjoy it. The laboratory was on strike, unions were organizing nurses, and there never seemed enough time to study or sleep. The late Bill Rader was there as a resident in psychiatry.

In 1955, the U.S. Public Health Service took over responsibility for the health of Alaska Natives. When Bob completed his internship and was drafted for two years of service, he entered the public health service. His first year was spent back at Mt. Edgecumbe and a second at Kotzebue, Alaska, where he was the only doctor. Busy as he was, he loved it. The experience

piqued his interest in tuberculosis and changed the direction of his medical career. He had thought he wanted to be in academic medicine but Alaska was too fascinating.

He found Eskimos to be thoroughly admirable. While they were materially poor, they were culturally rich. Eskimos were living a subsistence life in a rapidly changing world. They desired a role in its evolution. To ensure a good education for their children, they willingly sent them far away to boarding schools. They realized that many of their villages would disappear and tried to anticipate and prepare for this. Bob recalls the dedication of the Bureau of Indian Affairs teachers particularly praising two black teachers at Unalakleet, John and Charlie Mae Moore.

Because the Eskimos truly appreciated his efforts in treating their illnesses, especially tuberculosis, the experience was exceedingly rewarding.

By the early 1960s however, the Eskimos were beginning to change. Welfare programs were introduced with good intent but dubious effect. Formerly, families cared for illegitimate children and communities managed their tragedies. Aid for Dependent Children contributed to the breakdown of family and community structure. Eskimos began to move away from subsistence and individual responsibility. The Alaska Land Claims Settlement Act emphasized individual rather than group rights.

Bob returned to Pennsylvania Hospital in 1962 for formal training in pulmonary diseases. Shirley was serving a two-year residency in internal medicine at the same institution. They met.

Shirley says engagingly that "Bob had weird ideas about dating. He liked picnics at 5 a.m. and canoeing in the dark." She found him the most interesting person she had ever met. Shirley, an elfin beauty, must have prompted Bob's ingenuity in wooing. They were married in 1963.

Through Dr. Ed Wicks, a director of the state health department, Bob procured a temporary job in the Anchorage health department, but Bob and Shirley soon flew off to London on the late lamented SAS airline.

---

He liked picnics at  
5 a.m. and canoeing  
in the dark.

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Bob had a fellowship at Brompton Hospital, the famous pulmonary center in London. Shirley, having decided on neurology, took a clinical clerkship at the National Hospital for Nervous Diseases. They spent eight exhilarating and enlightening months in England. Bob even studied at the Pasteur Institute in Paris for a few weeks. The fact that he had relatives living there added to the experience. At the end, they took a train to Germany, bought a VW camper and in company with two Czechs, a Persian and a fellow American, went skiing.

Before going to England, Shirley had accepted as a commissioned officer in the USPHS and Bob had been offered a permanent position in the state health department. Returning in March 1964, they drove the VW as far as Clarion, Pennsylvania enroute to Alaska only to learn from Shirley's father that the "sky had fallen in"-the Good Friday Earthquake. Bob called Juneau and was told, in effect, to advance slowly. They drove to Prince Rupert, B.C., took the ferry to Haines, Alaska, and finally drove to Anchorage.

With one interlude, Bob stayed with the state health department from 1964 to 1988. Shirley worked for two years at the Alaska Native Medical Center. These were busy years as Philip was born in 1965, William in 1966 and Bobby in 1967. When the Frasers left Alaska temporarily in 1967, Shirley's friends and colleagues gave her a farewell dinner and a beautifully wrapped gift. She was effusive with thanks. When she opened the package, out fell an IUD.

The Frasers were in Denver until 1969. Bob taught at the University of Colorado Medical Center and worked at the National Jewish Hospital. Shirley had two more years of neurology training at the Medical Center.

On their return to Anchorage, Shirley joined the Alaska Clinic. Subsequently she shared space with Dr. Robert Whaley and eventually moved into her own office.

Bob Fraser returned to the state department of health, where he discovered that his position as chief of the section of tuberculosis had stretched to cover all communicable diseases including sexually transmitted diseases and epidemiology. Bob was based in Anchorage, but he travelled widely to hold clinics throughout

the state. He comments on the presence of good commuter airlines and the ever diligent bush pilots. He claims to have visited places no longer existing and adds that the only place he thinks that he has missed is Nuwitsik near Barrow.

Finally, he served as director of public health in Juneau commuting from Anchorage. He found the state public health department too political and often felt he had to do things to secure funding for the tuberculosis program. But Bob feels that tuberculosis can be eliminated in a couple of generations and that working for the government seems the best way to do this.

Bob notes that under Albrecht the department emphasized health problems. Later social services and jails were added. The enormously important but undramatic discipline, public health, became submerged.

In 1988, feeling political pressure, he withdrew as director of public health. He considered entering private practice but felt that he had been in the public sector too long. He chose to go to Montgomery County, MD, to take charge of communicable diseases including tuberculosis, AIDS, and other sexually transmitted disorders. He also worked as a chest physician at Veterans Affairs clinics. Shirley continued to practice in Anchorage and maintain the home. When their son Philip was murdered in Canada on the Alaska Highway on the way to college, Bob returned to Alaska.

Shirley notes that for many years Bob was the major wage earner and she just tagged along. Now Shirley has her full-time private practice and Bob gracefully does the cooking at which, Shirley says, he is very good. He also serves at the Anchorage VA clinic. They both dream of doing something medical in the Third World when they retire.

Bob, tall, thoughtful, and soft-spoken is the foil for bright and lively Shirley. The Frasers have been spirited and productive medical citizens.

Gwynneth Gminder Wilson  
Alaska State Medical Association Auxiliary

## ENJOYING THE WEED--ARCTIC STYLE (1826-27)

Members of the Kotzebue expedition in 1816 were the first to note that the Eskimos north of Bering Strait were already well acquainted with tobacco, even though the latter had had no previous encounters with Europeans. A decade later, Beechey found tobacco smoking widespread among these people, many of whom were willing to trade arrows, arrowheads, several types of fur, labrets, and sometimes even weapons for a few leaves of coarse tobacco. On one occasion near Icy Cape, four hundred pounds of caribou meat were exchanged for three or four pounds of leaf tobacco.

Likewise, in 1837 Thomas Simpson, the first European to explore the entire coastline from the Mackenzie River to Point Barrow, found the Eskimos--men, women, and children--clamoring for tobacco, especially at Barrow, where it was in great demand and could be traded for virtually any article they possessed.

Clearly, tobacco was not introduced to the Inupiat by Europeans, as it had been brought by the Russians in the previous century to the peoples of Kodiak and the Aleutian Islands. It appears, rather, that by the time of the first European exploration of the region, the northern Eskimos had already been receiving it in trade from the peoples of eastern Siberia for many decades. After 1789, when a major market was established at Anyui, on the Kolyma River, Alaska furs were traded regularly, through several middlemen, for tobacco and various items of European manufacture, such as the blue beads used on labrets.

Tobacco remained a major article of trade between the Eskimos of Alaska and the peoples of Siberia, later being supplemented by trade with the Russians and with American whalers, who began regular voyages north of the strait in the second half of the 19th century. This trade flourished throughout western Alaska for as long as the barter economy lasted in this region. Even today the rates of tobacco use are considerably higher among the Alaska Natives than the rest of the Alaskan population--a disturbing situation that carries with it important health consequences for these peoples.

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“[O]n this occasion we witnessed a smoking party in which the women and children partook equally with the men. The pipe used on this occasion was small, and would hold no more tobacco than could be consumed

at a whiff. To these instruments there were attached a pricker and a strip of dog's skin, from the last of which they tore off a few hairs, and placed them at the bottom of the bowl to prevent the tobacco, which was chopped up very fine, being drawn into the mouth with the smoke. . . . The pipe being charged with a pinch of the material, the senior person present took his whiff and passed the empty pipe to the next, who replenished it and passed it on, each person in his turn inflating himself to the fullest extent, and gradually dissipating the fumes through the nostrils. The pungency of the smoke, and the time necessary to hold the breath, occasioned considerable coughing with some of the party, but they nevertheless appeared greatly to enjoy the feast. . . .

“Smoking is their favourite habit, in which they indulge as long as their tobacco lasts. Parties assemble to enjoy the fumes of this narcotic, and the pipe passes round like the calumet of the Indians, but apparently without the ceremony being binding. . . . [T]he great pleasure of the party often consists in individuals endeavouring to excel each other in exhausting the contents of the bowl in one breath, and many a laugh is indulged at the expense of him who fails. . . .

“They seldom use tobacco in any other way than this, though some natives whom we saw to the southward of Beering's Strait were not averse to chewing it, and the St. Lawrence Islanders indulged in snuff. Their predilection for tobacco is no doubt derived from the Tschutschi [Chukchi], who are so passionately fond of it, that they are said, by Captain Cochrane, to snuff, chew, and smoke, all at the same time. The practice of adulterating tobacco is common with the Tschutschi, and has, no doubt, passed from them to the Esquimaux, who often adopt it from choice. That which finds its way to the N.W. coast of America is of very inferior quality, and often has dried wood chopped up with it.”

## REFERENCE

Beechey, Frederick W.: *Narrative of a voyage to the Pacific and Beering's Strait, to cooperate with the polar expeditions... in the years 1825, 26, 27, 28*. Two vol. (Reprint) New York: Da Capo Press, 1967, 1:411-12; 2:304.





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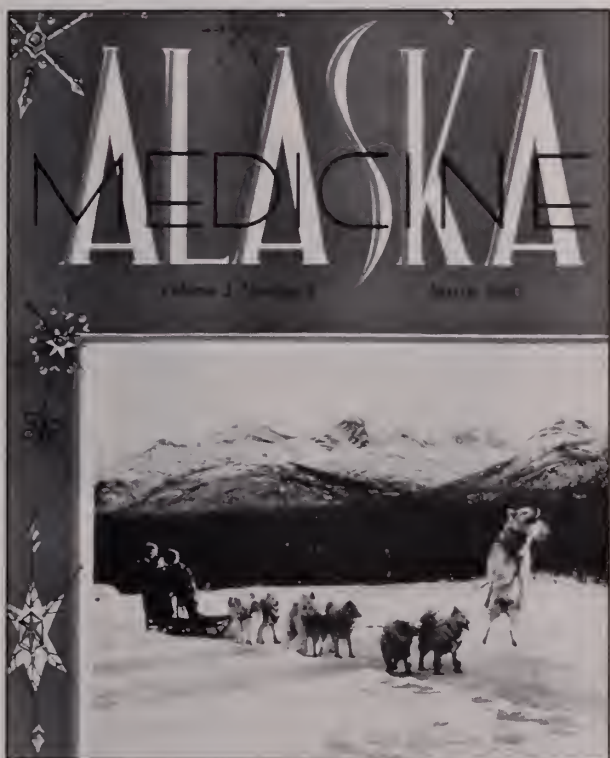
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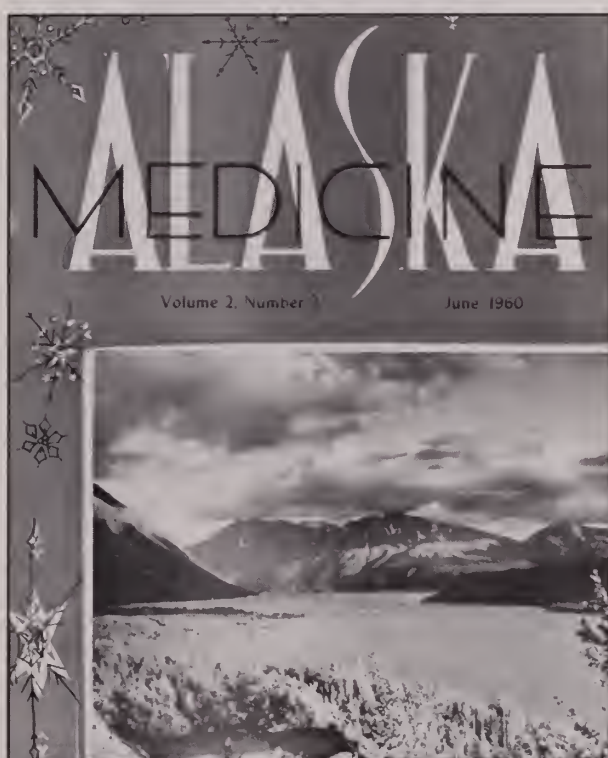
# From Out of the Past -- Over 30 Years Ago

by Gloria K. Park, M.D.



Volume 2, No. 1 Cover

March 1960



Volume 2, No. 2 Cover

June 1960

## Editorial Page . . .

"VOLUME TWO, NUMBER ONE"

Alaska Medicine, having passed, not unscathed, from egg through larval stage, prepares for its next transition, into the pupal period. From this state, this coming year, the Editorial staff trusts we will emerge into the adult stage of the cycle, viable, healthy and more long lived in this region, than the ordinary species of liter ary insect.

The Journal has progressed. This is largely a result of the combined efforts of the loyal advertisers, the long-suffering printers, the put-upon writers, and the efforts of our harassed Editor, Dr. William Maddock.

Not all of you have demonstrated agreement with our Editorial policy, methods, or the journal format. Most not in accord however, have expressed themselves in hallways, in isolated groups, or in transit. In one respect this is a healthy symptom for the publication, for we realize that you must be reading some part of it. However, it is less healthy in another regard, for your opinions are not rendered in Letter to the Editors form, and your vital thoughts are as words writ upon the water, and the editorial space awaiting your voice goes unfilled, or even worse, is taken by those whose opinions in matters of interest or concern to you, are in opposition to your beliefs.

This journal is yours, you members of the Alaska State Medical Association. For optimum efficiency, the fuel for its fires has been found to be pencil, pen with ink, or typewriter ribbon, black or red - the latter color having greater combustion capacity.

Physician, don't simmer and burn, alone and without statewide medical consultation, thereby destroying your equanimity and gastric mucosa. Emerge with Alaska Medicine from the pupal envelope. We know you are out there, but as yet we can't read you! Static in the usual Arctic and Subarctic atmosphere makes for poor voice transmission. Don't call. Write!

William J. Mills Jr., M.D.  
Editor-in-Chief

"A QUESTION OF EQUALITY"

Much of the reason for the rapid growth, the strength and vigor of America has been derived through the great waves of immigrants coming to these shores in the last three centuries, contributing their conflicting drives, interests and purposes, and thus it again evident in the population of Alaska over the last 70 years. Alaskans today are characterized, more than the citizens of most states, by industry, imagination and tolerance for conflicting philosophies and ideologies. Nowhere in the history of recent times has such a large immigrant wave been accepted into the resident population with such friendliness and tolerance.

There do exist, however, serious areas of discrimination which should be eliminated if we are to adhere to our stated basic beliefs of social equality and brotherly acceptance. We should like to put forward at this time our plea for efforts to make these "foreign" citizens the equals of the original inhabitants and give to them their proper rights. Many areas of discrimination still exist, such as hunting bag limits, fishing rights, and availability of secondary boarding schools; but by far the most serious area of discrimination is in the furnishing of adequate health facilities to these new arrivals. May we suggest that organized medicine in Alaska take some positive steps to insure for us immigrants who have arrived here in the last several decades the provision of proper medical facilities and services without the present discrimination and segregation which is fundamentally intolerable in a democratic society.

Robert D. Whaley, M.D., Assistant Editor

### ERRATUM

On page 104 of the preceding number of ALASKA MEDICINE (Volume 1, Number 4) in the article entitled "Recognition of the Wolff-Parkinson-White Syndrome on Routine Electrocardiograms" by Drs. Wilde and Gibson, line 12 of Case I should read atypical rather than a typical.



Robert Whaley, M.D. and William J. Mills, Jr., M.D.

*Frostbite: Experience with Rapid Rewarming and Ultrasonic Therapy"*

This was Part I of III and all were later published as a treatise that led to international recognition of the Alaska authors.



Paul G. Isaak, M.D., Seward  
*"Medical Practice in a Small Community"*

**AUXILIARY NEWS:**

"Nurse wanted in Alaska. Must be free to travel. Salary \$427 plus per diem." This ad in the American Journal of Nursing attracted Mrs. John B. (Grace) Fenger to Alaska in 1953. Dr. Fenger was the first physician to live in Homer.

New babies for Drs. Isaak, Sperry, Mead, Morgan and Mills.

**Kodiak King Crab Newburg** per Mrs. Bruce Keers:

3 cups crabmeat \	Cook 3 min.
½ cup butter /	
2 tblsp sherry \	Add & cook 1 min.
2 tblsp brandy /	
2/3 cup whipping cream \	Add
dash of nutmeg, salt and Cayenne /	

3 egg yolks slightly beaten - add, cook to stir gently until sauce thickens. Serve on toast triangles.

**MUKTUK MORSELS:**

- Dr. Paul Isaak moved from Seward to Soldotna.
- Dr. John Hepler moved from Tanana to Kakanak.
- Dr. William Coleman moved from Fairbanks to Skagway
- Dr. Wallace Dunn left for an ENT residency.
- Dr. Robert Fraser left for an Internal Medicine residency.
- Dr. Marshall Simpson was first physician to locate in Chugiak.
- Fairbanks Medical Society officers are Drs. Ribar, Lundquist, Tatum and Dunlap.
- Anchorage Medical Society officers are Drs. Mike Beirne, Rod Wilson and Winthrop Fish.
- Dr. Kenneth Richardson of Mt. Edgecumbe has been assigned to the Coast Guard.
- Dr. Helen Whaley attended the White House Conference on Children.

Dr. Howard Romig was appointed to the State Board of Fish and Game.

Drs. Rod Wilson, Bob Whaley and Win Fish flew to the San Francisco medical meetings, then Bob and Win flew to Baja for skin diving.

The 15th Annual Meeting of ASMA was held in Anchorage, February 18-20, 1960 to coincide with the Fur Rendezvous. Topics included cancer, heart disease, tuberculosis, injuries and mental health.



Benjamin E. McBrayer, M.D President ASMA

**In Memoriam:**

William P. Blanton, M.D. died suddenly while performing surgery at St. Ann's hospital in Juneau. He served the Alaska territorial Medical Association as Secretary 1934-1953 and as President in 1954.

Stan Lee Edwards, M.D. died in a plane crash enroute home from a field trip to the Iliamna area for the Alaska Native Health Service.

A.O. Rogers, pioneer prosthetist, died in a plane crash. Prior to his arrival in Alaska, patients needing braces and limbs had to travel "Outside".



Phyllis E. Smith, M.D.

*"Analysis of the OB Service at Ketchikan"*

continued on page 38



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**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

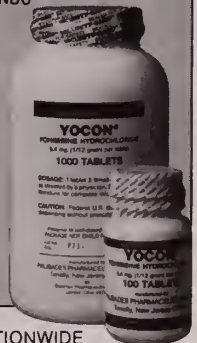
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

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#### References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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# President's Corner



Let's celebrate! The changes set in motion by the "coed-ification" of medicine are just beginning to be felt.

September is Women in Medicine month. ASMA and the AMA both see clearly that women are changing our profession for the better! And, ASMA and the AMA must

find and support the development of women who will become active members and leaders of organized medicine.

There is something so right, so sensible and so natural about coed medicine - because of course life is coed, as are pain, disease and death. Whether by instinct, by socialization or by hormone biochemistry, women have a somewhat different mix of skills, abilities and emphases to offer patients.

As it turns out, some patients do prefer women physicians; some prefer men; and some care only for convenience, competence, or bedside manner. Patients have benefitted from the increased availability of women physicians because their range of options has been widened.

The profession of medicine has also benefitted from larger numbers of women. First, the need to make medical training bearable for women with tender psyches and multiple role demands has made it clearer that men are vulnerable and have multidimensional lives as well. Second, sociologists have shown that coed groups function more effectively than do one-sex groups. Women

often help clarify underlying interpersonal and emotional issues; men often keep the focus on the problem at hand until it is solved.

Society is also enjoying the benefits of coed medicine. Pediatrics and family practice are front-line specialties with increasing labor shortages, but women continue to prefer these primary care specialties. Also, research on female disease and family health is less easy to forget when more of the researchers are women themselves.

And, of course, women physicians have benefitted from the opportunity for self-development and self-expression presented by the wider opening of the door to medicine. I personally have enjoyed the freedom not to be "the best" and "show all those men" despite the admonitions of mentors who were solitary women physicians in earlier decades. From the beginning I was surrounded by a comfortable mix of women and men. I felt it was my right to be just as mediocre as the next male physician. Thus, I have felt free to set my own standards and find my own way.

Lastly, I must confess to a special happiness in celebrating Women in Medicine month in Alaska, as the first female president of this association. I'm doing my best to encourage and support the development of interested and talented leadership for the next decade, we need both men and women, because the future -- like death and life -- is coed!

Jennifer Christian, M.D.  
President  
Alaska State Medical Association

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*continued from page 136*

There were many letters to the editor on the mental health program, bureaucratic medicine, need for a mental health hospital, pros and cons of an institution at Valdez. Resolutions from the annual ASMA meeting were published and covered such topics as "socialization", revision of the Alaska medical practice act, need for a medical library and need for more financial support of the Arctic Health Research Center.



weeks for a coronary artery bypass, and 14.1 weeks for disk surgery.

But advocates for the Canadian system argue that an "overall" statistical analysis shows that the universal health care system delivers better medical treatment. In many commonly used measures of quality health care, that advocate would be correct. For example, the average estimated life expectancy for a child born in the United States in 1989 is 75.4 years as opposed to 77.2 years for a child born in Canada. In addition, the U.S. infant mortality rate is 11 per 1,000 live births as compared to 7 in Canada.

There is no question that these figures are disturbing. However, they can not be interpreted to reflect an inherent superiority in the Canadian system. Rather, they are influenced more by social factors in the United States than they are by different health care financing systems. The United States has a much larger inner-city poor population and a teenage pregnancy rate almost 2½ times greater than that of Canada. We also have a higher rate of harmful maternal behavior during pregnancy, i.e. smoking, drinking, and drug abuse.

If government policies are to blame for high infant death and low life expectancy rates in the United

States, it is more likely the fault of America's welfare system than its health care system. The fact of the matter is that problems in our health care system -- such as the insured and high costs -- are directly related to larger social problems. When debating the future of health care in the United States and Alaska, we can not have a myopic view and disassociate health issues from social issues. They are inseparable. I am not an expert in the field of medicine, but I believe the first step in curing our ailing health care system is to increase the self-worth and self-respect of those individuals in our society who feel that they have no future here. To get people back to work and off the welfare system is to create a healthier society.

I also believe there are many ways to control costs in our health care system without negatively impacting upon the quality and accessibility of health care. These include, a reduction in administrative costs (such as legislating paperwork reduction), malpractice reform (there are several currently pending which entail liability reforms), and the expansion of managed care (House Resolution 1565 would modify federal tax policy to encourage employers to offer managed care plans or plans with specific cost-sharing provisions).

In sum, I feel that when the facts are scrutinized regarding current health care policy in the U.S. and Canada, the conclusion points to instituting real reform in terms of costs, insurance, and accessibility to our health care system. A complete overhaul to our system would be imprudent at this time. There is no question in my mind that the debate over our health care delivery and financing situation will progressively take center stage on the national political agenda. I hope that anyone interested in the debate will feel free to write or call my office to express their concerns or to receive information regarding pending federal legislation.

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# Executive Privilege

It's been some time since I've reported on the myriad of activities occupying your association.

The most serious activity involves Medicare payment reform provisions of OBRA 89. These provisions represent the most significant change in payment for physicians' services since the inception of Medicare. When reform finally passed Congress, it was the understanding by all parties that any reform was to be budget neutral. However, HCFA has proposed a system that will not only be a budget slasher, but would result in a 16% reduction in the schedule's expected "conversion factor"--the dollar amount used to calculate the payment amount for each physician service. In addition, the Geographic Adjustment Factor (GAF) for Alaska is patently unfair in relationship to other states.

A medium size physician group in Anchorage projected that in 1992, their average medicare reimbursement would drop from 55% (1991) to 41% of charges in 1992. By 1996, it could drop another 10%. We continue to actively oppose these dramatic cuts through our Congressional delegation and strongly urge you to continue to express your outrage as well.

Health access and cost containment dominate our state legislative agenda with the formation of a Health Access & Cost Containment Council. The Council consists of eight physicians and eight hospital administrators working together to create legislation that will address these complex issues. The Council has been meeting monthly for the past nine months; and recently added ten legislators, the Commissioner of Health & Social Services and the benefits managers of the two largest employers to their deliberations. The Council's mission and activities is the first real attempt by us to participate in solving these serious problems.

The ASMA office is deeply involved in mediating a dispute between SEARHC and the Community Hospital in Sitka. The mission of SEARHC and the complexities of Public Law 93-638 have resulted in allegations that SEARHC has provided services to non-beneficiaries on a fee basis. Our role, is to assist these communities to find a permanent resolution of this issue.

The state statute governing liability for Medicaid services is being investigated by the ASMA office. The current state of Alaska Medicaid Provider Enrollment Form contains a hold-harmless and indemnity agree-

ment favoring the state of Alaska. If physicians sign this agreement, and if the state is named in a lawsuit which arises from the performance of the physician regarding a Medicaid patient; then the physician agrees to provide - entirely at his/her expense, - all manner of defense, court costs, bail bonds, etc., and if the State has to spend any money on its behalf, the physician agrees to repay the state. This is contractually assumed liability. Your malpractice policy excludes coverage in which damages or liability is assumed or imposed, specifically a "hold harmless" agreement. ASMA

is currently in negotiations with the state to modify this language.

The Health Care Coalition of Alaska (HCC) is the sponsor of a "Health Issues" forum that provides access to a large cross section of the provider community to Senator Frank Murkowski and Representative Don Young. This is the first HCC sponsored forum for Senator Murkowski and the second for Congressman Don Young. HCC will sponsor a forum with Senator Ted Stevens later in the fall.

ASMA has been part of the steering committee that is planning the first annual Rural Health Conference scheduled for Palmer, Alaska, October 11, 12, 13, 1991. We salute the Matanuska-Susitna Medical Society and its president, Susan Lemagie, MD for their leadership in developing this conference.

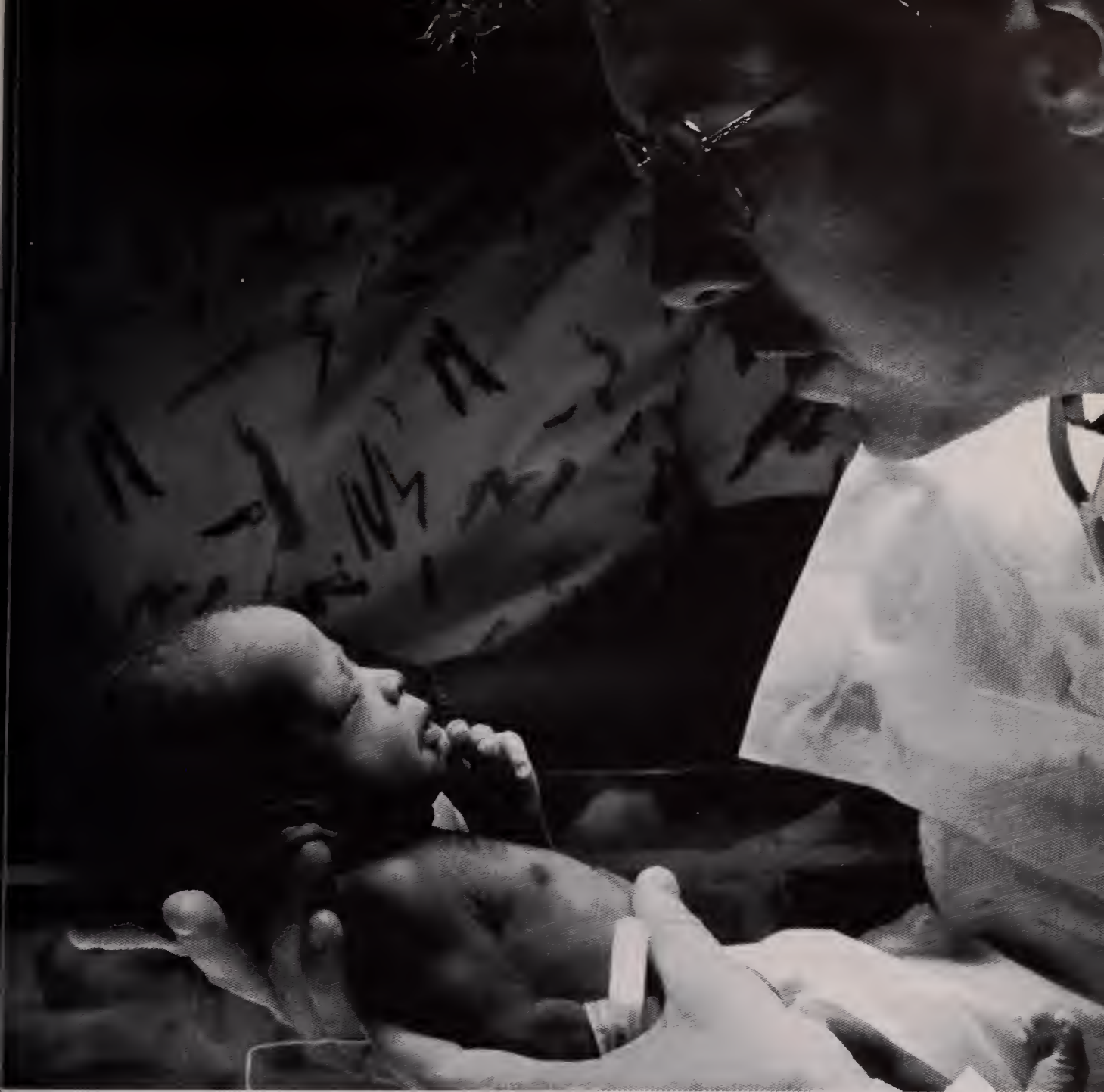
ASMA was a member of the selection committee mandated by Senate Bill 326 that created grants for several communities to develop health planning. The sites selected were: City of Fairbanks, Wrangell and Petersburg General Hospitals, and the North Pacific Rim.

On a personal note, I want to thank Joni Tanner (Clouse) ASMA's Associate Executive as she departs in the fall with her husband to North Carolina. Joni will be deeply missed. Her organizational skills, intellect, and quick grasp of this profession has been a real asset to ASMA. Her interaction with physicians on committees of responsibility have shown her to be the "consummate" professional. I wish her God Speed.

Ray Schalow  
Executive Director,  
Alaska State Medical Association

- 
- Medicare
  - Health Access
  - Rural Health Conference
-





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# Letters to the Editor

## ALASKA CARES GOES TO ROMANIA

*The following is a reprint of a letter written to Dr. Ionescu Emilian, Director, Bistrita County Health Department, Bistrita, Romania.*

To the Editor

Mary Halloran, representing an organization named Alaska Cares, asked me to come to Bistrita and help evaluate some of the medical problems, so that we could see if there are areas in which we might be able to help. This is a report of some of my observations. I have tried to evaluate things through the eyes of the local physicians as well as my direct observations. I will not necessarily identify which category fits which concern.

The greatest benefit with the least cost would come from a program of preventive practices:

1. The greatest problem/potential problem is the use of tobacco. This results in increased arteriosclerosis, heart disease, amputations, peptic ulcers resistant to medical treatment and chronic pulmonary disease to mention a few major problems.
2. Recognition and treatment of diabetes mellitus so that the resultant blindness, heart disease, kidney failure, and amputations, hypertension, etc. are delayed or prevented.
3. Adequate water and sewage treatment so that hepatitis and other infectious diseases are prevented.
4. Dietary changes so that less cholesterol and fatty meat is eaten and therefore less arteriosclerosis.

Simultaneously the medical profession needs current information on the diagnosis, prevention and treatment of diseases through the availability of books and journals. The hospital staff would like subscriptions to:

1. *The American Journal of Gastroenterology*
2. *The American Journal of the Diseases of Children*
3. *Contemporary Pediatrics*
4. *Emergency Medicine*
5. Other unlisted journals

They also need an adequate library of medical text books.

Education through books and journals could be supplemented by the use of visiting consultants and by having local doctors travel to medical centers in other

parts of the world for training. they would then come back to Romania and teach their colleagues.

In Bistrita consultants could lecture on topics of concern to the medical staff and demonstrate the use of special techniques and equipment.

The surgeons are interested in:

1. How to prepare patients for surgery.
2. Preoperative medications.
3. Post surgical follow up care.
4. Fluid, electrolyte management (i.e. water, sodium, potassium, etc.)

Other topics would need to be identified for internal medicine, pediatrics, obstetrics and gynecology, general practice, etc. Patients requiring extensive surgical procedures are transferred to larger medical centers. The most common surgical procedures done in Bistrita are trauma, hernias, appendicitis, cholecystectomy, perforated peptic ulcer closure, urological and orthopedic specialty cases. There is an eye hospital in Bistrita, but I did not visit that facility.

There is a definite feeling that adequate physician manpower is present to carry the medical and surgical load and foreign physicians are not needed to do the work, but rather to teach and demonstrate newer procedures and use of medications, etc. Vascular surgery and other difficult casework would be handled in Cluj or other medical centers. Such specialty assistance could almost certainly be coordinated through someone there.

In Bistrita the equipment being used is so worn that it is difficult to use, so visiting surgeons should expect to bring any special equipment that they would need and even pretty basic equipment if possible, the medications that they would use would also be unavailable in Romania. The former regime did not permit medical texts and journals to enter the country and so the need for texts, etc. is great.

Of course, we all recognize that there are tremendous difficulties with the lack of medications, supplies, equipment, chemicals, etc. Many of these individual items are expensive and require some degree of special training for their effective use and or interpretation. Alaska Cares is attempting to find European sources for some of the things so that there will be less trouble and expense and time delay in shipping.



The medical staff needs the following items:

1. Drugs - antibiotics, antidiabetic and antiulcer.
2. Diagnostic equipment - Ultrasound unit with adult and pediatric transducers for the pediatric department (?colorscreen unit). There is an adult ultrasound unit in the hospital, but no transducers for pediatric use and the other unit is getting tired.
3. Sigmoid/colonoscope of a flexible fiberoptic type.
4. Pediatric and adult gastroendoscope and a ?Watson biopsy forceps.
5. Chemicals for laboratory tests and sterilization of equipment, etc.

An area of particular concern to me is the failure to provide adequate social and educational stimulation of the children in the leagan (orphanage) and distrophica (failure to thrive), so that the children can learn to talk and have the ability to function outside of an institution. As is, the adult attendants do not teach language skills or have the time to hold and nurture and automatically teach speech. Neither do the children have older siblings or playmates from whom to learn speech. Consequently at age three, the children are automatically "mentally retarded" by our customary measuring methods. Then there is no effective means of educating them to be a contributing factor in the upward economic development that we all wish for Romania.

The physicians would like to see a World Health Organization special study of congenital malformations and stillbirths in this area to try and determine whether it was caused by the treatment of syphilis with Neosalvarsan, by inbreeding or by the Chernobyl nuclear accident.

This is a very superficial look at many very complex problems. It would be presumptuous for me to think that I have the answers for Romania's health problems. Upon my return to Alaska, I will try to encourage people to make a special effort to scratch the surface of a few of these needs with manpower, equipment, sources of supply or something. I have no product to sell or program to offer. The purpose of my trip was to find a small bit of relief for one or more of your great problems.

Good luck and prosperity to you all. Hopefully, I will someday return to Romania and find that we have all been enriched.

Stanley N. Jones, M.D.  
Box 1249  
Haines, Alaska 99827

## HELPFUL ACRONYM

To the Editor:

While serving as a preceptor in North General Hospital's outpatient clinic, an intern presented a case of an elderly woman with symptoms resembling those of carpal tunnel syndrome. After discussing the case, I attempted to list all the possible causes of this syndrome and although I was able to name over a dozen, my recall was not as rapid as I would have liked. In order to alleviate this problem, I am proposing the following memory aide, which should help one remember most of the possible etiologies of this syndrome. The word **STERIODS**, may be used as follows:

<b>S</b>	Scleroderma
<b>T</b>	Trauma/tuberculosis/tenosynovitis
<b>E</b>	Endocrine diseases (hypothyroidism, acromegaly, hyperparathyroidism)
<b>R</b>	Rheumatoid arthritis and other related collagen vascular diseases
<b>O</b>	Obesity and other fluid retention states (including pregnancy)
<b>I</b>	Idiopathic conditions/infiltrative processes (leukemia, amyloidosis gout, pseudogout)
<b>D</b>	Diabetes mellitus
<b>S</b>	Sarcoidosis

While this is probably not all inclusive, it does provide a rather exhaustive list of possible etiologies for this syndrome. This aide should come in useful in remembering many of the diverse causes of this condition.

James F. Gettler, M.D.  
Department of Medicine  
North General Hospital  
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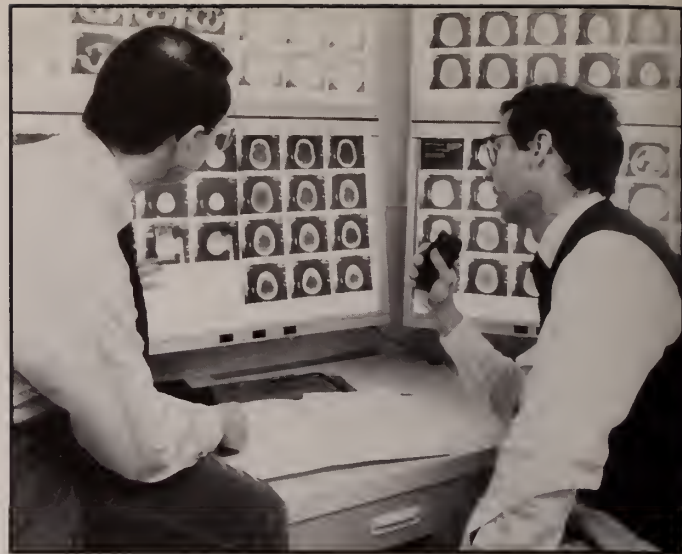
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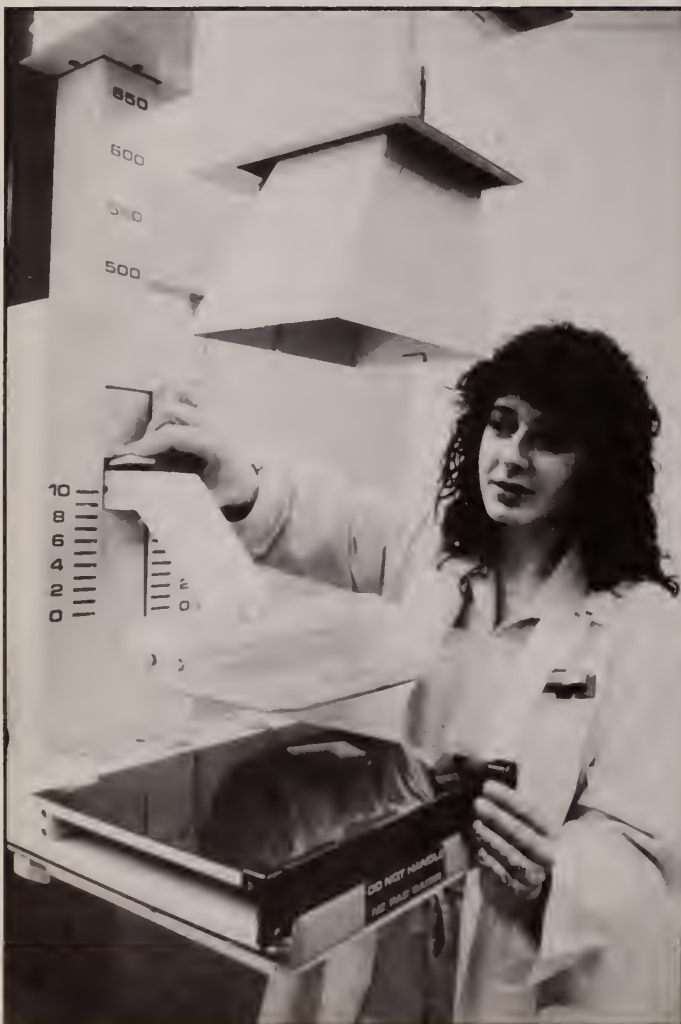
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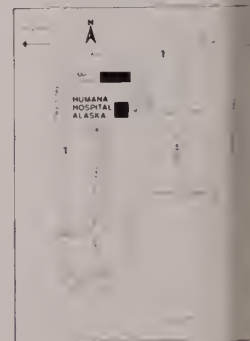
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# Medicaid's New Prescription Drug Legislation: Prudent Purchasing and Drug Use Review<sup>1</sup>

John M. Coster, R.Ph., Ph.D.<sup>2</sup>

## INTRODUCTION

As the gavel on the 2nd session of the 101st Congress came down in the early morning hours of October 28th, 1990, a new era in the way that the federal government purchases pharmaceuticals was established. Included in the \$500 billion five-year deficit reduction agreement narrowly passed by the House and the Senate were prudent pharmaceutical purchasing provisions for the Medicaid program that are expected to save \$3.4 billion in tax dollars over five years--\$1.9 for the federal government and \$1.5 for the states. These savings will be achieved by significantly reducing the price that the \$5 billion national Medicaid drug program pays for pharmaceuticals. Medicaid is the \$50 billion federal-state health care program for the poor.

The primary Congressional architect of legislation designed to provide a better price to the Medicaid program was Senator David Pryor (D-AR). Pryor, as Chairman of the Senate Special Committee on Aging, was very disturbed to learn that the Medicaid program, one of the single largest purchasers of prescription drugs in the country, was being denied access to the discounts on pharmaceuticals that other purchasers, such as hospitals and HMOs, routinely received. His objective was to secure these discounts for the Medicaid program. To achieve his intent, Pryor introduced two bills during the Congress--S. 2605, the Pharmaceutical Access and Prudent Purchasing Act, introduced on May 12th; and S. 3029, the Medicaid Anti-Discriminatory Drug Price and Patient Benefit Restoration Act, introduced on September 12th.

The first bill required states to form their own prescription drug buying groups or join a federal prescription drug buying group. These groups would act as drug purchasing agents for the Medicaid program, and would solicit bids from drug manufacturers to have their products included on the state's Medicaid drug formulary. This process was structured to emulate the very successful purchasing practices of hospitals and

HMOs. The bill was criticized by the Pharmaceutical Manufacturers Association (PMA) and several minority groups as an attempt by Pryor to provide "second class medicine" to the nation's poor. These groups believed that the bill would lead to restrictive formularies which would result in Medicaid patients receiving only the cheapest drug product in each drug class. However, others believed that the PMA was more concerned that the bidding system used in the bill would be employed by other third party prescription plans and HMOs to bargain with the manufacturers over the price of their drugs.

The second bill, S. 3029, was introduced in response to various Medicaid drug discount plans that had been developed by drug manufacturers in the spring and fall of 1990, such as the Merck Sharp and Dohme (MSD) Equal Access to Medicines plan. This proposed legislation required manufacturers to offer Medicaid the "best price" for a prescription drug that they charged any purchaser in the marketplace. To assure savings over time and to hedge against manufacturer price increases, the "best price" could increase no faster than the Consumer Price Index-all urban consumers (CPI-U). There was a minimum discount of 10%. State Medicaid programs would be required to cover all drugs for those companies that gave discounts, but states could still use a prior authorization process to encourage appropriate utilization of high-priced or clinically misused products.

Although some contended that the indexing feature in Pryor's second bill was tantamount to price controls on pharmaceuticals, the Congressional Budget Office (CBO) emphasized to congressional staff that long term savings on prescription drugs in the Medicaid program were uncertain unless there was some way to guard against manufacturer price increases. In the final days before passage, even the industry admitted that they would have to live with some form of indexing, and, although pushing hard for the index to be pegged to the CPI-Medical Index (CPI-M), the Congress was not willing to allow drug prices to inflate higher than CPI-U for Medicaid. In general, CPI-U is lower than CPI-M.

<sup>1</sup>Prepared for the Center on Drugs and Public Policy, University of Maryland Graduate School, Baltimore.

<sup>2</sup>United States Senate Special Committee on Aging, Washington, D.C.

A modified form of Pryor's second bill was sponsored in the House by Congressmen Ron Wyden (D-OR) and Jim Cooper (D-TN), both members of the Energy and Commerce Committee, which has jurisdiction over Medicaid. Wyden is also a member of the Subcommittee on Health and the Environment, chaired by Congressman Henry Waxman (D-CA). Waxman saw the drug provisions as a way to find monies to expand Medicaid programs for elderly and children--programs that he believed had been neglected for years. While the original target for savings from pharmaceuticals was \$1.6 billion over five years, the House-Senate reconciliation conference agreed to increase that amount to \$1.9 billion to pay for some of the Medicaid expansions.

## **IMPACT ON THE PHARMACEUTICAL INDUSTRY**

Beginning January 1, 1991, pharmaceutical manufacturers are required to give the Medicaid program a specific schedule of rebates as a condition of coverage of their prescription drug products. For manufacturers of single-source (such as AZT, Seldane) and innovator multiple-source drug products (such as Valium, Motrin), there is a minimum rebate of 12½% off the Average Manufacturer's Price (AMP) for 1991 and 1992, with the minimum rebate increasing to 15% in 1993 and beyond. Manufacturers would have to give Medicaid, however, the higher of this minimum rebate or the difference between the AMP and the manufacturer's "best price" for that product. The AMP is the price that manufacturers charge wholesalers to buy their products.

In the legislation, "best price" includes those prices that manufacturers offer to hospitals, HMOs, and certain components of the Department of Veterans' Affairs (DVA), and are to be determined regardless of manufacturer's packaging, such as unit dose products. The definition of "best price" excludes DVA depot drug prices and single award contracts (such as the contract that the DVA currently has with a major supplier of IV solutions) and "nominal" prices offered to charitable groups or organizations. These exemptions were made for several reasons. Federal government depot prices reflect the manufacturer's costs of delivering the product in bulk to a provider, without packaging costs. The provider, such as the DVA, then assumes the costs of repackaging and shipping to individual outlets. Medicaid is a reimbursement system, not a direct purchaser of drugs, so it seemed unfair for Medicaid to have access to prices that are determined based on this mode of distribution. DVA Federal Supply Schedule (FSS) prices are not excluded from consideration. In addition, Congress did not want to threaten the prices that

charitable organizations and clinics such as "Planned Parenthood" pay for drugs, such as the pennies a pack paid for birth control pills, and therefore excluded them from the definition.

An "additional rebate" will recover any increase in the average manufacturer prices over the rate of inflation, as measured by the Consumer Price Index-all urban consumers (CPI-U). The additional rebate is calculated on an individual drug basis for the first three years, and then switches to a system of aggregation in 1994.

Drug manufacturers have significant incentives to participate in the Medicaid rebate program since there will be no federal Medicaid matching funds available for the drugs of those manufacturers that have not entered into a rebate agreement. However, manufacturers that have rebate agreements in effect will have all their products covered by the state Medicaid programs. This is a particularly significant victory for the drug companies since many state Medicaid programs do not cover all drug products of all manufacturers for both cost and patient care reasons. In addition, there is usually a significant lag time between the marketing of a new drug and coverage by a state Medicaid program. Now, all new drugs will have to be covered immediately by a state Medicaid program for a period of not less than six months after approval. All these benefits will have significant "spill-over" effects for the prescribing of a drug company's products by physicians in other sectors of the ambulatory care market.

Congress developed different rebate amounts for generic drug products: the rebates will be 10% off the AMP in 1991-1993, and 11% off the AMP thereafter, with no indexing provisions. These rebates are different from the rebates for the single-source and innovator multiple-source products because the generic industry has more competitive prices and generic companies operate on much smaller profit margins than do the brand name companies.

## **RELIEF FOR THE STATES**

A major objective of the legislation was to provide financial relief to the state Medicaid programs that were having trouble making ends meet in their prescription drug program. It is projected that states will save \$1.4 billion on drug costs over the next five years as a result of the legislation. The states do, however, incur some additional responsibilities under the legislation relating to coverage of prescription drug products.

One of the major issues discussed during the debate was Medicaid beneficiaries' access to prescription medications. The manufacturers argued that states were unnecessarily and artificially restricting Medicaid



patients' access to drugs for cost reasons, especially new products. The states argued that they could not afford placing new, expensive drugs on their formulary while they already covered drugs that they thought were as good, and less expensive, than new alternatives. The PMA saw the legislation as an opportunity to eliminate, through federal legislation, their number one nemesis in state Medicaid programs: drug formularies. In the end, however, the drug companies were only partially successful in their effort.

The compromise requires states to cover single-source drugs and innovator multiple-source drugs (when a restrictive prescription has been issued) only if the drug's manufacturer has entered into an acceptable rebate agreement with the Secretary of Health and Human Services. The drugs of manufacturers not providing an acceptable rebate WILL NOT be eligible for federal matching funds UNLESS the drug has been designated a "1-A" drug by the FDA and the Secretary has approved the state's determination that the drug is "medically necessary" for the state's Medicaid population.

To address the industry's concern that Medicaid patients arbitrarily would be denied access to new, breakthrough drug products, state Medicaid programs have to cover new drugs for a period of six months after approval, after which time the program may place the drug on prior approval. Prior approval requires the prescriber to obtain "permission" to use the drug from the Medicaid program before it can be prescribed. The law allows the states to place all drugs on prior approval, and there are a limited number of drug classes that states, at their option, may exclude from coverage for Medicaid patients, even if subject to a rebate agreement, such as drugs to promote fertility or hair growth.

The bottom line for the state Medicaid programs is that they are likely to save millions of dollars each year on prescription drug costs, which should allow them to remove some of the restrictions that have had to be implemented to control costs, such as limits on the number of prescriptions that a Medicaid patient can have dispensed each month.

## IMPACT ON PHARMACY PROVIDERS

### Medicaid Reimbursement Reform

Pharmacy providers are likely to be as relieved as the states that the manufacturers will be participating in cost containment by giving rebates to Medicaid. Like many other members of Congress, Senator Pryor strongly believes that pharmacists have been targeted by HCFA as the exclusive focus of drug program cost containment efforts in Medicaid--efforts that were unsuccessful because the pharmacist had no control over the

cause of the problem: manufacturer price increases.

Senator Pryor made Medicaid pharmacy reimbursement reform a major policy objective of the legislation. His original bill, S. 2605, restructured the Medicaid reimbursement system, basing reimbursement on the competitive nature of the pharmacy marketplace. Reimbursement would have been pegged at the pharmacist's usual and customary charge, capped at 90% of state-wide actual charges for that prescription. The theory was that the competition that exists among pharmacists in the retail marketplace would result in lower prices being passed on to state Medicaid programs.

However, Pryor's reimbursement reforms came under sharp attack from HCFA, the state Medicaid programs, and pharmaceutical manufacturers. These groups argued that the reform was inflationary, and would negate any program savings achieved under the manufacturer rebate system. Manufacturers charged that the potential increase in payments to pharmacists made under the system was analogous to "robbing Peter (the manufacturers) to overpay Paul (the pharmacists)." In addition, the trend in health care policy reimbursement over the last decade has backpeddled from charge-based reimbursement. Policy makers feared that other providers would also demand charge-based reimbursement if pharmacists were successful in their quest. Pryor, however, had data from a large outpatient prescription drug program that refuted these assertions.

In the second bill, however, Pryor tried to allay the fears of state Medicaid directors worried about the financial impact of a charge-based reimbursement system. He introduced a provision that would provide for a 5% set aside as a restitution payment for pharmacists for what he characterized as a decade of unfair reimbursement cuts. That is, states would have to set aside 5% of the rebates they received from the manufacturers and provide this back to pharmacists in a lump sum payment in proportion to the number of Medicaid prescriptions that they dispensed. The bill also provided for a two-year moratorium on any changes by the states or HCFA in reimbursement levels to pharmacists for those states that were in compliance with the reimbursement regulations.

When the final package was crafted, conferees decided to drop the set aside and extend the moratorium on reimbursement reductions to four years, beginning January 1, 1991. The sense was that the development of a set aside would be a poor policy precedent since other health care providers might want similar provisions enacted for them. In the end, the four-year moratorium may well provide greater financial restoration to pharmacists than a set aside. The moratorium will prevent HCFA and the states from focusing drug program cost containment efforts on pharmacists and will

give states sufficient time to study whether current pharmacy reimbursement rates are adequate. To make this determination, the Secretary is required to conduct a study of states' Medicaid pharmacy reimbursement rates, including dispensing fees.

## **Pharmacists' Counseling and Drug Use Review Provisions**

The new Medicaid law contains several provisions that have the potential to significantly improve the prescribing and dispensing of drugs to Medicaid patients. The legislation establishes a comprehensive program of drug use review with a prospective component, which consists primarily of pharmacists' counseling patients on drug use, and a retrospective component, which is designed to identify and correct long term patterns of inappropriate drug use.

With respect to the prospective component, the Congress recognized the professional skills and training of pharmacists by adopting language that asks pharmacists to review the appropriateness of drug therapy at the point of dispensing, and to counsel Medicaid patients on the use of their medications. Pharmacists are expected to collect and record drug-related information about the patient and check new or refill prescriptions for drug interactions or adverse drug reactions.

The provisions related to counseling ask pharmacists to offer to talk to patients about how to take their medications. The patient counseling guidelines in the bill reflect the national standards adopted by the National Association of Boards of Pharmacy (NABP) in 1990. NABP and the major pharmacy practitioner organizations, APhA and NARD, were strong supporters of these provisions, recognizing that the profession needed to send strong signals to Congress concerning its role in protecting and enhancing public health.

Pharmacists should be assisted in fulfilling their counseling responsibilities to Medicaid patients as a result of two demonstration projects that are mandated under the law. The first requires the Secretary to complete a multi-site demonstration study by January 1, 1995, of the cost-effectiveness of paying pharmacists for cognitive or clinical services, including reimbursing a pharmacist for not dispensing a drug when there is potential for an adverse drug effect. In the other study, the Secretary must conduct a ten-state demonstration project of the effectiveness of providing information through an electronic claims transfer system about a patient's drug and medical history that will assist phar-

macists in fulfilling drug therapy screening and patient counseling requirements. Information would be captured in a central repository of information so the pharmacists would have a patient's complete medication profile that would assist in detecting adverse reactions and therapeutic duplications.

State Medicaid programs are currently required to have a program to identify patterns of fraud and abuse in the prescription drug program, such as detecting overprescribing and overdispensing of controlled substances. Under the new law, states will be required to develop a program of retrospective utilization review and educational outreach targeted at improving the drug prescribing and dispensing practices of health professionals. Prescription drug data for this purpose will be collected and compiled from the claims data submitted by pharmacies. The data would then be analyzed by state drug use review boards, established to oversee the operation of the state's entire DUR program. To insure that the retrospective program focuses on improving therapeutic outcomes, one third of the members of the board must be practicing pharmacists, and one-third must be practicing physicians. The DUR board is also responsible for designing educational interventions for health professionals, which may include mailings, face-to-face meetings, or educational conferences or symposiums.

Pharmacy stands to gain both in economic and professional terms under the bill. No other providers have enjoyed a four-year moratorium on reimbursement reductions in a third party health care program. In addition, the demonstration projects should help pharmacists firmly establish their role in the health care system as more than just dispensers of medications.

## **CONCLUSION**

In 1991, the relationship between the pharmaceutical industry and the federal government began a profound change. As Senator Pryor said on the floor of the Senate many times, in the past the federal government and the state Medicaid programs have essentially "paid what the drug manufacturers have asked for." In 1990, Congress recognized that it was squandering an opportunity to use its tremendous purchasing power for prescription drugs to obtain a better deal from the manufacturers. Now, Congress has mandated that state Medicaid programs pay a fair price for drugs and there is tremendous opportunity to improve the drug use patterns in a population of individuals known for taking a large number of medications--the poor and elderly.



# An Emergency Corneal Ulcer Kit

by Robert W. Arnold, M.D.<sup>(1)</sup>  
Edward E. Crouch, M.D.<sup>(1)</sup>

## ABSTRACT

Bacterial corneal ulcer is a potentially blinding emergency which should ideally be treated by an ophthalmologist aided by slit lamp biomicroscopy, microbial stain and cultures, and then selected fortified topical antibiotics. We suggest an emergency corneal ulcer kit for the initial treatment of patients with suspected corneal ulcers who are unable to readily travel to an ophthalmologist.

## INTRODUCTION

Bacterial ulceration of the cornea is an ocular emergency. It is possible for a corneal ulcer to perforate an eye in less than 24 hours causing endophthalmitis and loss of the eye. Corneal ulcers have increased incidence with ocular surface disease such as blepharitis, impaired immune system, ocular injury or foreign body and particularly with contact lens use. There is a particularly high incidence of bacterial corneal ulcer associated with extended wear soft contact lens use.

Ideally, corneal ulcers are treated by an ophthalmologist aided initially by careful documentation and high magnification slit-lamp biomicroscopy. Under topical anesthesia with the aid of a lid speculum, the corneal ulcer is then scraped and inoculated onto plates containing blood agar, chocolate agar, Sabouraud's dextrose plates, and thioglycolate broth. Slides are prepared for Gram's stain and fungal studies (Wright or KOH stain). Then, aided by the results of the Gram's stain, fortified topical antibiotics are administered. If the ulcer appears to be due to a herpes virus, antiviral medications are used with or without topical corticosteroids. Rare, but devastating corneal ulcers may be caused by *Acanthamoeba* which invades the cornea from a contact lens contaminated with brackish water<sup>(3)</sup>. *Acanthamoeba* may require corneal biopsy and special prolonged antibiotic treatment. Some immunocompromised individuals may have corneal ulceration

secondary to fungi which respond to topical antifungal medications. The majority of acquired microbial corneal ulcers are due to either bacteria (*Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Streptococcus pneumoniae* or *Serratia marcescens*) or herpes simplex virus<sup>(2)</sup>.

A patient with a corneal ulcer presents with a red, intensely painful eye, photosensitivity and tearing. Visual acuity in the affected eye may range from normal to markedly decreased depending on the opacity of the ulcer with respect to the visual axis. The anterior chamber of an eye with corneal ulcer may have mild to moderate iritis.

We suggest the following techniques<sup>(1)</sup> and emergency ulcer kit to be used in rural areas for the initial treatment of suspected corneal ulcer in patients who are unable to be promptly evaluated by an ophthalmologist.

## EVALUATION OF THE PATIENT WITH SUSPECTED CORNEAL ULCER

A patient with suspected corneal ulcer should have a thorough screening eye examination. Visual acuity MUST be assessed and recorded. If acuity is so poor that the patient cannot read a distance chart or near card, then vision can be indicated by finger counting, hand movements or light perception. Contact lenses or ocular foreign bodies, if present should be removed and the vision rechecked. Pupil reflexes and confrontation visual fields are important in patients with decreased visual acuity. The eye should be examined externally. If a slit lamp is unavailable, the corneal exam can be enhanced by using a direct ophthalmoscope with a magnified image using a high plus (black lens power number) condensing lens. Topical anesthetics may reduce some photosensitivity and fluorescein staining may delineate corneal epithelial damage when illuminated with a blue light. The posterior fundus should be examined, if possible.

A corneal ulcer often appears as an epithelial defect and a white-to-yellow, hazy, poorly demarcated plaque in the midcentral cornea (Figure 1). Immune infiltrates due to lid disease or other antigens usually occurs near the corneoscleral limbus and appears as a

<sup>(1)</sup>Ophthalmic Associates, 542 West Second Avenue, Anchorage, Alaska 99501.

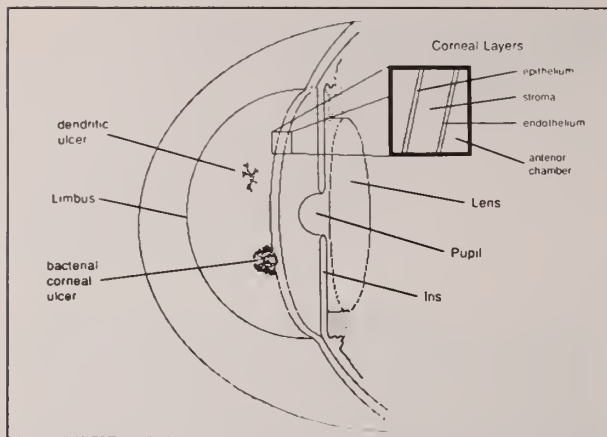


Figure 1. The appearance of typical microbial corneal ulcers caused by bacteria and Herpes simplex virus.

white collection of leukocytes under an intact epithelium. Most microbial ulcers do not occur near the limbus. Superficial corneal ulcers which have a dendritic appearance are almost pathognomonic for herpes simplex keratitis. The location, size and depth of the corneal ulcer should be documented with a drawing to aid in monitoring therapeutic efficacy.

## INITIAL TREATMENT

A patient with a suspected corneal ulcer should be transported for evaluation and treatment by an ophthalmologist as soon as it is feasible. If the patient is unable to travel, phone contact with an ophthalmologist should be attempted. Only if the patient is unable to be transported should empiric treatment be commenced. Once topical antibiotics have been used, subsequent microbial culture is greatly impaired.

We suggest the following topical drops (Figure 2) be started for any patient with suspected corneal ulcer who is unable to readily travel.



Figure 2. The Emergency Corneal Ulcer Kit: Trifluridine drops, parenteral gentamicin, Topical gentamicin, artificial tears, parenteral cefazolin and a sterile syringe.

An aminoglycoside such as gentamicin or tobramycin provides excellent coverage for Gram negative bacteria while a cephalosporin (cefazolin) provides good coverage for Gram positive bacteria. These may be readily mixed from stored supplies to provide significantly safer treatment for possible pseudomonas corneal ulcer than commercially available concentrations.

**Aminoglycoside:** With a sterile syringe, 1 ml of parenteral (80 mg per 2 ml) gentamicin is added to a 5 ml commercial bottle of topical gentamicin (3 mg per ml) to achieve a fortified concentration of 9 mg per ml.

**Cephalosporin:** With a sterile syringe, remove approximately 2 ml from a commercial 15 ml bottle of artificial tears. Use this to reconstitute a 500 mg vial of intravenous cefazolin which is then transferred back to the artificial tear bottle with the syringe to achieve a fortified concentration of 33 mg per ml.

A single agent, broad spectrum antibacterial may be substituted for the combination of a fortified cephalosporin and aminoglycoside. The only currently available is Ciproxin® (ciprofloxacin HCl, Alcon, Fort Worth, Texas) 0.3% which should provide cidal activity against staphylococcus, streptococcus, serratia and pseudomonas species which usually cause bacterial corneal ulcers. This drop should be used hourly when awake.

We also suggest implementation of trifluridine (Viroptic®) antiherpetic drops. The drops should be used in the following frequency: aminoglycoside one drop in the affected eye every hour, cephalosporin one drop every hour alternated on the half hour with the aminoglycoside and the Viroptic® to be instilled one drop six times per day. A cycloplegic such as one drop of cyclopentylate (Cyclogel®) 1% may provide 12 hours of relief from ciliary spasm. We strongly advise against the use of topical steroid medications. Topical anesthetic agents may be used for diagnosis but NOT for treatment<sup>(1)</sup>.

The patient should continue this regimen until able to travel to an ophthalmologist. If the ulcer is resolving as judged by size, quietness of ocular injection and patient comfort, the frequency of fortified antibiotics may be decreased to four times per day each and twice per day for the Viroptic®.

We hope that rural health care facilities will consider stocking a Corneal Ulcer Kit and thus be prepared

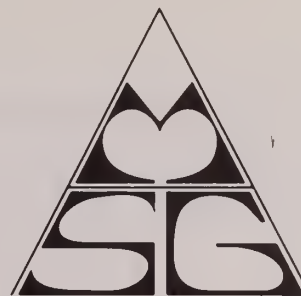


to offer patients a better chance of retaining good use of their eyes in the event of a suspected corneal ulcer and concomitant travel limitations.

*The authors have no proprietary interest in the commercially available components of a Corneal Ulcer Kit.*

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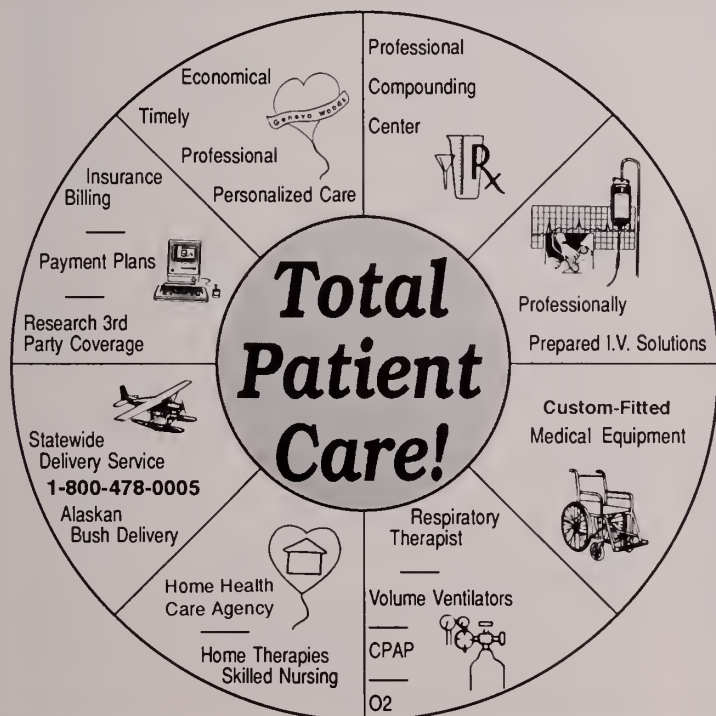
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# ELEMENTS FOR BUILDING A CULTURALLY SPECIFIC ADDICTION TREATMENT PROGRAM

Alice Sullivan <sup>(1)</sup>

## ABSTRACT

Addiction treatment tailored to specific cultural, ethnic and racial groups has been recognized as optimally effective. Alaska rural and Native cultures have healing elements that serve well in addiction treatment. However, it is not sufficient to "add on" a culturally orientated group to an already well defined program. In order for these cultural elements to be fully effective the basic philosophy and orientation of that modality of the treatment program needs to be based on them. Such program development needs to be implemented in a clear, coordinated and consistent manner. It is postulated that program modalities that offer a culturally specific theoretical base will be more effective than programs based on the medical model.

Alcohol was first introduced into Alaska in the Southeastern part of the state by the Russians in the middle of the eighteenth century<sup>(1)</sup>. Whalers and particularly traders brought it to the Arctic coast by 1873<sup>(2)</sup>. By 1897 the oldest residents of one Arctic Coast village were quoted as saying that the previous winter had been one of unparalleled drunkenness, disorder and bloodshed<sup>(2)</sup>. With the gold rushes in Dawson and Nome at the beginning of the century, "outsiders" poured into the most remote sections of Alaska and alcohol became readily available.

The combined effect of the sudden introduction of alcohol to a culture that had no experience with it, and the fact that the introduction was made by an invading, powerful and dominating culture, have made the problems of dealing with alcohol abuse in Alaska different from other Euro-American cultures.

That Alaska has a major alcohol, and more recently other drug abuse problem has been documented<sup>(3,4)</sup>. To deal with these problems the State of Alaska funds 29 alcohol and other drug treatment centers scattered throughout the state. Of these, twelve are located in urban or "hub" cities. This means that a significant number of Native Alaskans have to travel to another

area for treatment. It also means that, realistically, there is very little aftercare or family treatment available in the small rural villages where the clients reside.

It was mentioned earlier that Alaska Natives have had to deal with the fact that alcohol was brought to them by an invading and dominating culture. What we realize now is that the treatment of alcohol abuse has also been brought to them by a dominating culture. Due to its brief history with the use and abuse of alcohol, traditional Alaska Native culture has no intrinsic norms for dealing with alcohol. Further, this culture has no means of integrating the treatment of alcohol abuse because it is based on a world view that is alien to it. Not only are the basic values and spiritual ideals of Alaska Native culture expressed and lived very differently from those of Euro-American culture, but the way an individual builds and maintains relationships, the human structure of the family is quite different from the Euro-American model.

The point has been made over and over again that ethnocentric treatment is ineffective<sup>(5,6)</sup>. Moreover, other researchers have pointed out that treatment strategies that originate from the value system of a dominating culture are really another form of oppression. Such strategies can simply enforce the feelings of low self-esteem, cultural alienation and confusion that mark the forced acculturation of any people<sup>(7)</sup>.

In 1989, a report was issued by the Alaska Native Rural Health Board<sup>(8)</sup>, which is composed of treatment providers, rural Alaskans and "outside" experts, they called for addiction treatment programs originating from the Alaska Native culture as one of the most important issues facing treatment planners and providers. This call echoes the results of research in the area of alcohol/drug abuse treatment in other segments of Native American society: "A major problem facing the treatment field is. . . the lack of culture-specific alcoholism treatment program."<sup>(9)</sup> Many treatment centers have already allocated treatment time to Alaska culture presentations. These might include inviting Elders to speak to the clients, showing culturally appropriate videos, or scheduling singers and dancers for

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presentations. However, these Alaskan orientated groups float on top of the core treatment philosophy and have little influence on the day-to-day education, therapy, and life of clients.

It is not enough to have singing, dancing, storytelling, etc. included on top of the treatment regimen. People of different cultures have entirely different ways of seeing themselves in relation to other people and to their physical environment. Their way of living reality, their thought and feeling patterns vary greatly from those who formulate and carry out treatment philosophy. So, for culturally specific treatment to occur, the world view, the way of experiencing reality of Alaska Natives needs to be incorporated into the treatment philosophy of each facility and its staff members. There are two separate but directly connected areas where work needs to be done in order to provide a culturally specific program. First, would be the development of such a model. Second, would be the acceptance and training of staff and supervisory personnel in such a model.

Relative to the first, program development, Native and rural Alaskan culture are rich in resources for program development springing from local roots. For example, rural and Native Alaskans are strongly orientated towards experiencing themselves as members of an extended family and community. The way they fit their role in the family and the community is basic to how they experience themselves as people. Thus, part of a culturally specific treatment program for addiction problems would be facilitating a profound awareness on the client's part as to how chemical use has damaged or destroyed their family and community relationships. From the very onset of treatment, the client's goals would center on family concerns. If, for example, a client has economically abandoned the family, job training and placement would be phrased in language that reflects the client's family orientation rather than an individual one. The client would be working on the same type of treatment goals familiar to addiction counselors but the motivational base would be expanded from the individual to the family and community.

As rural Alaskans are centered emotionally on their family and community, involvement of both in addiction treatment is of primary importance. Family therapy needs to be central to treatment and not an "add on" or extra. Concentration on the emotional and spiritual isolation that addiction leads to would thus be the springboard for treatment and remain important throughout. Rather than starting with the individual and then working out to the family and community, culturally specific treatment would start with family and work in to the individual. This family/

community orientation to treatment is backed by research indicating that with Native Americans the importance of a healing community is central to counteracting the high recidivism that occurs in the Euro-American treatment modalities that concentrate on individual healing<sup>(9)</sup>.

Another area of program development rooted in Native culture is to incorporate Native spirituality into the program. There is a general unity of expression of spirituality throughout Alaska. This is consistent with the incorporation of spirituality with A.A. and avoids the sectarianism that marks Euro-American culture. There are several ways of building a spiritual component into a treatment program. Process groups based on traditional values as developed by various Elders groups would be one way. Another resource would be using traditional myths and stories. Clients could not only read or hear the myths but also dramatize them for themselves. Some groups can also build to a point where they create their own myths and act them out. A third way of incorporating spiritual values could be information and sharing of Native healing methods.

The incorporation of native spirituality has proven to be a valuable contributor to a life of sobriety by recent research<sup>(10)</sup>. However, for a treatment program to maximize the effect of utilizing both Native spirituality and other aspects of Native culture, they need to be incorporated into treatment in an orderly and progressive manner. This means that the content of groups led by Elders, the myth groups, the spirituality groups and so on need to be focused and directed along a definite continuum with treatment goals clearly drawn and sustained through each group.

A final point to be made in this is that Native culture embraces a wide variety of expressions and goals. Some clinicians think they have incorporated Native culture into treatment when using processes and symbols developed in other places, particularly from the Plains Indians. Group processes, symbols and videos need to be specific to the area in which the clients are living. Transferring stories and symbols from different cultures will only cloud treatment philosophy and, in the long run, make it less effective.

Another aspect that deserves serious attention for development of a culturally specific program is the actual location in which treatment takes place. We are fortunate to have, in some cases, modern well-equipped facilities. However, these same facilities can make the treatment experience belong to a different and unreal world to the rural client. Many rural clients compare it to when they were being sent "outside" to boarding schools. Thus, the whole treatment process, like the boarding school experience, appears to have no relationship to the client's day to day life. A fish camp, or

some other type of traditional setting, as an adjunct to a facility can help clients translate their experiences and maintain their sobriety in their own personal world.

Consider these two different settings. First, a group of clients sitting in a closely drawn circle of modern chairs. The room they are in is large, well-appointed and completely cut off from the rest of the world. This is a therapeutic process group and they exchange memories and feelings around their past or their current life. Everyone is expected to stare at each other. Everything takes place within a scheduled hour and a half allotted for group therapy.

Now, consider the same group at a facility traditional camp. They are sprawled about on the sand in a very relaxed positions. There are Elders present. There is no time. Sharing goes at a very measured pace with long periods of silence. People are looking out at the sea or absently staring at the sand. Memories and feelings are not so much shared as totally absorbed by everyone. This is the traditional mode of sharing. Incorporating this mode of communication into treatment will help clients to translate the skills they have learned back into their own personal setting. Presently, Native clients have to work through treatment in a communication style that is totally alien to themselves. When they return to their normal context of life, this communication style is immediately sloughed off and, unfortunately, often the treatment goals and progress disappear with it.

An area not often thought of when outlining culturally specific treatment programs is that of language. Much of chemical addiction treatment centers on the development of and expression of feelings. However, staff members often have no knowledge of whether the words they are using correspond to the lived reality on the client's side. Also, due to sudden and traumatic language loss, many rural Alaskans are not fluent in either their own language nor in English. Rural clients can be literally wordless to describe the powerful affects they experience.

One way of addressing the language issue is to develop a dictionary of "feeling" words. This could be a project for Elders and clients to work on together. In addition, a collection of traditional stories that incorporate strong development of feelings could be made. These could be important tools for clients to gain a sense of knowledge about themselves and for staff to appreciate the different meanings cultures can give to the same word.

Developing culturally specific treatment models does not exclude using other treatment modalities currently available. Ideally, any type of healing program would include different types of treatment. Some

Native clients respond very well to the current A.A. or the medical model approach to treatment. However, it is becoming increasingly evident that for addiction treatment facilities to be effective they need to incorporate a plurality of treatment modes<sup>(11,12)</sup>. A holistic multifaceted approach to treatment is the model proposed for rural Alaska.

Other human systems that operate in rural Alaska (legal, school and church system for example) have increasingly, though most often reluctantly, learned that they need to work in and with Native culture and psychology if they are going to succeed in facilitating rural Alaskans developing the human tools they need to survive and flourish. It is more than time for the addiction treatment system to base its treatment philosophy on the culture and world view of the people among whom and for whom this treatment is intended.

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# For the Record . . .

## Specialized Programs of Research Excellence (SPORE)

by Senator Ted Stevens

In the past few months I've spent more time with health care providers than I anticipated when 1991 began.

That's one reason I welcomed the invitation from your editors to contribute a short article. It's my opportunity to pass on encouraging news and to share some observations, after having been a hospital patient for the first time in a long time.

In mid-August I underwent prostate surgery. The experience gave me new insights into some of the needs of the medical profession. Even though I have the opportunity to meet with Alaska health care providers from time to time to discuss legislation and Alaska health issues, additional medical concerns were brought to my attention in recent months. Because my physicians checked for more than just the specific health questions I inquired about, changes in my prostate were discovered early and monitored closely and carefully for several years.

I have much to be grateful for, because of the skills of doctors, nurses and technicians who worked with me from diagnosis through hospitalization to recovery.

From the first suspicion of a possible problem, my doctors ensured that I understood the whole picture: what they were looking for, what they found, what my options were, what the treatment would be, and what to expect in terms of recuperation.

Along the way, I learned some of the sad facts that health providers already know about the threat of prostate cancer to American men, and the need for additional research and education.

When the Senate reconvened in September I urged my colleagues to pay careful attention to new legislation focusing on research into prostate cancer. In the same statement on the Senate floor, I strongly recommended annual physicals, and included in the Congressional Record an article on prostate cancer from the January 24, 1991, issue of the *New England Journal of Medicine*.

Also, I included an amendment in the Health and

Human Services appropriations bill which would fund a new research approach designed to speed up the progress in reducing the incidence and mortality of specific cancers.

The new program, which will be initiated by the National Cancer Institute, is called Specialized Programs of Research Excellence (SPORE), and will focus on three types of cancer: lung, breast and prostate.

Nine SPORE centers across the nation - three for each type of cancer - are funded at \$1.5 million each. Those SPORES dedicated to prostate cancer, for example, will be committed to state-of-the-art research in the biology of prostate cancer as well as prevention, diagnosis and treatment of the disease. In addition, the centers may also pursue research in patients' rehabilitation and

quality of life.

The prostate cancer SPORES would be called the Matsunaga-Conte Prostate Cancer Research Centers, after Senator Spark Matsunaga of Hawaii and Rep. Silvio Conte of Massachusetts, both of whom lost their lives to prostate cancer in the last Congress.

Under the legislation, there are six main goals of the prostate cancer SPORE. It must:

- Foster basic and clinical research collaborations.
- Develop and maintain human prostate cancer tissue resources.
- Develop and improve animal models for prostate cancer research.
- Provide career development opportunities for independent investigators who wish to pursue active careers in prostate cancer research.
- Participate with other SPORES on an annual basis to share information, assess scientific progress, and identify new research opportunities for reducing incidence and mortality, and for increasing and improving survival.

(continued on page 179)

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**The SPORES would expand the basic research in prostate, lung, and breast cancer.**

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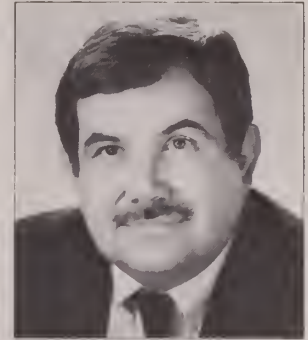
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THE COMMITMENT CONTINUES



## FROM THE COMMISSIONER

# We Should Take the Lead in Fitness and Health



Theodore Mala, M.D.,  
Commissioner of Health  
and Social Services

In the past several months just about every news magazine in the country has dedicated at least one cover story to health issues. Many have focused on fitness and nutrition.

These journalistic efforts have not been directed only at those subjects members of the popular press find so appealing -- the poor, the aging, or those with life-threatening diseases -- but at the general public and, by extension, at those of us who provide health care in this country.

While the purpose of these "special focus" sections is most probably to increase circulation numbers by playing to the growing interest in personal health and longevity in the United States, the subjects of their efforts should not escape our professional attention. We should begin to address the physical fitness and nutrition habits of our patients as a routine part of what we do.

We in the various health care professions share a very real responsibility to promote health and fitness awareness in a way which encourages prevention of disease, injury, and loss of physical strength.

Recently Alaska played host to body building champion and motion picture actor Arnold Schwarzenegger. He was here to promote the activities of the President's Council on Physical Fitness and Sports. Several times during his visit Schwarzenegger repeated a simple message: an hour spent in physical exercise today, may equal an hour not spent in the office of your physician or hospital emergency room in the future.

We who are consulted and trusted to lead the health care community in our state can carry that message also. We are in the unique position of being able to reach people face-to-face who can benefit from good health habits and physical exercise. Most of us are aware of the benefits which come from being physically fit. By using what we know, I believe we can make a difference in the lives of those who come to us for care.

I urge all of us to get involved with fitness, to offer suggestions to our patients about how to add physical fitness to their lives. There are plenty of examples to call on. Governor Walter Hickel, in his seventies, works out every day. Sometimes with his jump rope, sometimes by stretching and toning exercises. The governor credits his excellent health to the exercise regimen and responsible eating habits. President George Bush is known for his routine jogging.

Adding a physical fitness routine to one's life is not difficult and does not have to be expensive. While it may be true that several years ago someone wanting to begin an exercise program would be facing some stiff costs, times have changed. Today, here in Alaska, physical fitness opportunities abound. Private clubs exist in our larger cities. Community schools and the state's universities offer fitness classes at very low cost. Many businesses belong to sports leagues where bowling or softball teams compete. In many locations in Alaska there are school basketball courts, gyms, and swimming pools which are open to the public after school hours.

Try suggesting to patients that a regular "family fitness time" be set aside three days a week. Suggest turning off the television and going out for a family walk, run, football game, or ski outing for just an hour three evenings a week. It doesn't cost a thing to go for a brisk walk. If the weather won't allow outdoor activity, suggest a family swim at the high school pool or a game of indoor volleyball. There's something for just about every age and physical condition.

We can take the lead in Alaska in promoting fitness and good health and we can do it as part of our daily work.

For more suggestions and health and fitness information, write to the President's Council on Physical Fitness and Sports, Washington, D.C. 20001.

# SAFER SEX. . .

By Mary B. Cavalier, M.S.<sup>(1)</sup>

Being this the holiday season, I thought it fitting to hark to praises of touching.

## ODE TO TOUCH. . .

Touching. . .  
Such a simple act.  
Yet, its power  
befundles scientists  
and lay people alike.

A simple touch of the hand,  
can quiet a restless child,  
soothe the pains of a dying person,  
can bring a smile to a weary soul,  
such a simple gesture. . .

Yet when deprived,  
studies have shown,  
humans and animals alike,  
wilt. . .  
withdrawal into a world far away.

So during this holiday season,  
offer a gentle touch. . .  
perhaps a hug. . .  
(with permission, of course!)  
to family and friends  
and watch the glow abound! ! !

mbc, 91

Wish you and yours a gentle holiday season and a peaceful new year!

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<sup>(1)</sup>Robert Alberts, M.D. & Associates, 3340 Providence Drive, Anchorage, AK 99508.





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Editor

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# PHYSICIANS ON HOSPITAL BOARDS

By Betsy Longenbaugh<sup>(1)</sup>

Their reasons for serving vary from altruism to colleague arm twisting, but physician members of Alaska hospital boards agree their participation is valuable.

And, perhaps surprisingly, other hospital board members think so too.

"I wasn't too sure when I started out why there was a need for physicians. But as I got to working with them, and learned respect for them, worked out projects with them, I became a true believer that they had to be on the board," said Ed Mahn, Ketchikan General Hospital administrator.

The relationship between physicians and hospital governing boards has not been a smooth one. It has ranged from a general belief that physician involvement on governing boards is a direct conflict of interest to a position so in favor of physician participation that some board bylaws require their membership.

This spectrum of beliefs has translated to some varying degrees of physician involvement even today. For example, a physician member on one board may not be allowed to vote, while another will grant physicians full membership rights.

The community owned Bartlett Memorial Hospital in Juneau is required by charter to have a physician serve as a full member of its governing board. Traditionally, however, two physicians have served on the board.

"The board has always felt it was very good to have two on," said Marilyn Freymueller, a former president and current board member.

Freymueller said the two-physician policy continued even after the size of the board was shrunk from 11 to nine members. She said having two physician members ensures that at least one usually attends a meeting. It also results in the board hearing from more than one voice on the medical staff.

"Sometimes one physician will be on one side of an issue and the other will be on another," she said.

Dental surgeon Eric Paulson is currently one of the two physicians on the Bartlett board. He is also one of several physicians throughout the state who said they

agreed to serve on their hospital's governing board because, in effect, it was their turn.

"In any small group, we all have to take turns doing various jobs, and that's one of the jobs which a priority is placed on. Two members of the medical staff are elected to serve on the hospital board and it was my turn," he said.

Paulson agrees with Freymueller's reasons for two-physician participation on Bartlett's governing board, but adds another.

"It helps protect against the chance of getting a wingnut in there whose ideas might be counter to that of the medical staff as a whole," he said.

While physicians and their fellow hospital board members agree physician membership has value, there is some disagreement about that value. In one case, board members appear to rely more heavily upon physician advice because the board has no physician members.

Yukon-Kuskokwim Delta Hospital is a Native hospital and its governing board is composed of one resident from each of the 32 villages that make up the Bristol Bay region. This effectively precludes physicians from being members of the board, but the hospital medical staff meets quarterly with the board.

"The doctor is the one that gives us all the information about what's going on at the hospital," said Ida Apokedak, president of the Bristol Bay Area Health Corporation Board.

Apokedak said those meetings with physicians have been an important ingredient of her 16-year participation on the board.

Without them, "How else am I going to learn what is going on down there?" she asked.

Dr. Ron Livermont, clinical director at Yukon-Kuskokwim Delta Hospital, said the hospital's organization allows him equal authority with the hospital administrator in board communication.

"The emphasis on certain health care projects gets diluted if it has to be sent up through different levels of bureaucracy," he said.

Livermont said his advice is particularly sought when major equipment purchases are made.

"The last major project I presented is advocating

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**"The overall guiding factor is that of quality of care. . . ."**

---

(1)Alaska State Hospital and Nursing Home Association

we try to upgrade our cancer screening capability for the Bristol Bay area.

"I like it this way. I feel our health board right now is very empathetic toward physicians and providing good health care, and likes hearing directly from us," he said.

Elsewhere in the state, physician advice may not play as large a role in decision making as it does in the Bristol Bay region, but it is still important.

"I think it's reasonable to have physician input because, if nothing else, they can clarify some of the medical staff issues that come before the board," said Dr. Bill Henrickson, a family practice physician with a 24-year practice who is on the Ketchikan General Hospital governing board.

In Ketchikan, there is a voting physician member of the governing board, and the chief of staff also serves as an ex-officio member without voting rights, explained hospital administrator Ed Mahn.

Ketchikan is in the enviable position of having a hospital board with many years experience. Members of the board have enough experience to have developed their own expertise with medical issues. That expertise is often provided to boards with a high turnover by the physician member.

Henrickson said his role in such an experienced group is more that of an equal than of a member with special knowledge. "The people on the board are long-time board members who are knowledgeable about the hospital and the community," he said.

Administrator Mahn said he values board membership as a broadening process for physicians, rather than the other way around.

"By and large, most physicians on the board bring very positive things to it. It also opens their minds because they see issues that are broader than just what meets their needs," he said.

Hospital administrators and board members agree that physician involvement on boards is especially important when the hospitals are undergoing construction or renovation, when expensive new equipment is needed, or are proposing new services.

"The physicians brought to the attention of the board the need for Magnetic Resonance Imaging (MRI) services. . . . It was really a scope of services they felt the Interior could entertain. The board took that physician input and reacted," said Fairbanks Memorial Hospital Administrator Jim Gingerich.

Physician membership on hospital boards is most likely to meet resistance because of the possibility of conflicts of interest. This issue is also handled in a variety of ways in Alaska.

Some hospitals, including Ketchikan General, have a written conflict of interest statement that must be signed by board members. In some cases, the statement is reviewed annually, but usually it is addressed only when a board member is sworn in.

In other cases, hospital boards have no written policy, apparently relying upon the physician to make the board aware of any conflict.

Among areas that board members agree are particularly sensitive are the granting of medical privileges, decisions on outpatient services and physician recruitment. Some hospital boards may address all these issues; others some or none.

The Fairbanks Memorial Hospital board, for example, does not grant medical staff privileges, although it does make equipment purchase and personnel decisions.

"It's not uncommon to have possible conflicts," said administrator Jim Gingerich. Board members expect the physician to tell them of such a conflict and be excused from discussion and voting.

Dr. Paulson of Juneau's Bartlett Memorial Hospital said he believes the answer to deciding whether a conflict exists is an easy one.

"The overall guiding factor is that of quality of care. . . . I think I'm speaking for all the board members when I say we're not so much interested in getting business as ensuring a high quality of care."



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# American Society for Circumpolar Health

Fall/Winter 1991

Dear ASCH Members,

Again I will start my general letter to the membership with news of change and growth. The dream of Dr.s Earl Albrecht, Fred Milan and others was to have an international body that could work for the benefit of the health of all who live, work, and visit the Arctic. The International Union for Circumpolar Health (IUCH) was officially organized shortly after the Seventh International Congress on Circumpolar Health in Umea, Sweden in 1987. For the twenty years from 1967 to 1987 the work of coordinating the international activities was done by individuals with a common dream and a singular goal, cooperative improvement of the health of peoples in the polar regions.

From 1987 until 1991 the work was continued but with the additional task of forging international relations to the point of establishing a permanent office and hiring staff. I am pleased to announce that effective in the fall of 1991 that goal has been achieved. Through a cooperative agreement of the four adhering bodies to the Union a permanent office has been established and an Executive Director hired.

It was not a smooth process. We thought we had identified the means, the person, and the location early in 1990. The means did become a reality but only in early 1991. The Canadian Government made available to the Canadian Society for Circumpolar Health \$75,000 Canadian for the Director of the IUCH. The person who it was thought would take the job was no longer available and so an international hiring process had to be developed, candidates selected by an international panel, interviews held that met everyone's schedules, and final agreement made. On October 1st, 1991 Ms. Dalee Sambo agreed to accept our offer and become the first Executive Director of the IUCH.

The attached Position Announcement was run in Alaska Medicine, Arctic Medical Research, and circulated among the members of the adhering bodies. We received applications from the USA, Canada, England, and Denmark. There were several well

qualified individuals and we are very pleased that we could make the offer to Ms. Sambo and that she has taken the job and begun to move forward with it quickly. The position description is an outline of the expectations of the Council of the IUCH and provides insight as to the breadth of the role we anticipate.

## POSITION ANNOUNCEMENT

**POSITION:** Executive Director of the International Union for Circumpolar Health; a full-time position.

The International Union for Circumpolar Health (IUCH) was established in 1981 with four adhering bodies:

- The American Society for Circumpolar Health
- The Canadian Society for Circumpolar Health
- The Nordic Council for Arctic Medical Research
- The USSR Academy of Medical Sciences, Siberian Branch

The IUCH serves as an essential vehicle for international collaboration, cooperation, and communication between health scientists, practitioners, administrators, policy makers, and consumers in the circumpolar nations. According to its statutes, the objectives of the IUCH are:

- (1) To promote international cooperation in the study of circumpolar health;
- (2) To encourage and support research and exchange of scientific information in the circumpolar health sciences;
- (3) To promote public awareness of the current situation of circumpolar health;
- (4) To provide a means of communication with other organizations.

**GOALS:** The Executive Director of the IUCH will:

- (1) Ensure ongoing collaboration and communication of international scientists in circumpolar health;

- (2) Ensure the substantial involvement of aboriginal peoples from all circumpolar nations in circumpolar health issues;
- (3) Ensure the planning and implementation of successive circumpolar health congresses as the major vehicle of scientific communication. Such congresses will have an integrated indigenous peoples issues component.

**ACTIVITIES:**

The Executive Director of the IUCH will:

- (1) Develop an office, membership list, filing system, logo, letterhead, and newsletter.
- (2) Maintain financial records and prepare annual reports.
- (3) Develop a fund-raising plan for the IUCH to allow for the sustained viability of the organization.
- (4) Liaise with national and regional governments in the circumpolar zone, as well as with international organizations such as the World Health Organization, the Inuit Circumpolar Conference, and the International Council for Scientific Unions.
- (5) Coordinate the annual meetings and other activities of the IUCH Council and its executive committee.
- (6) Develop and plan a series of international meetings, symposia, workshops, and seminars on specific circumpolar health issues.
- (7) Assist in the local organizing of the triennial International Congress for Circumpolar Health; including identifying funding sources, coordinating international delegates, involving indigenous organizations in the planning and delivery, coordinating international travel, and assuring the timely publication and distribution of the congresses' proceedings. The ninth congress will be in 1993 in Reykjavik, Iceland.

The Executive Director of the IUCH will report directly to the President of the Council of the IUCH. Day-to-day supervision will be in conjunction with the local representative and delegate of the IUCH, and with the appropriate authority at the host institution, the University of Alaska Anchorage. The position will be an annual appointment with three year initial proposed funding. The position and location of the office will be reviewed after three years. The position will be established as a contract for a self-employed individual.

**LOCATION:** Anchorage, Alaska, U.S.A.

**SALARY:** Salary is competitive and commensurate with experience and related to the job requirements of an administrative position.

**SEARCH:** Review of applications will begin on June 15, 1991 and continue until the appointment is made.

**QUALIFICATIONS:**

Include but are not limited to the following:

- A college or university degree.
- Fund raising ability and experience.
- Management experience in planning conferences and other administrative duties.
- Knowledge of circumpolar health issues is essential.
- Knowledge of computers is desirable.
- Ability to travel on an international basis regularly.
- Knowledge of international relations in the Arctic and Antarctic regions.
- Refined interpersonal skills will be required.
- English is the official language of the Union and therefore all candidates must demonstrate a high level of both written and oral communication skills. Bilingual abilities for Circumpolar populations will be advantageous.
- Cross-cultural experience with Circumpolar indigenous populations is essential.

When Ms. Sambo asked where to report to work we could not answer her. It was unclear as to the exact location of an office. The University of Alaska Anchorage had pledged support to the American Society for Circumpolar Health for an office space, administrative support and \$20,000 US. On contacting the University to put this agreement in writing there was discussion on who, where, and what. Who would be responsible for the oversight of the contract, where exactly would the office be, and what exactly would be the nature of the administrative support. When the building was located there was construction under way and the office was not ready for several weeks. The who and what would be worked out and the office was to become a reality.

After almost a quarter of a century the IUCH founding fathers would be able to know that there was a hired staff person to address the international concerns of health in the polar regions. It is truly an international effort that has made this goal a reality.



What makes this process even more exciting is that the Director, Ms. Sambo is Inuit.

Dalee Sambo has a Masters of Arts Degree in Law and Diplomacy from Fletcher School of Law and Diplomacy. She was the Director of the Alaska office of the Inuit Circumpolar Conference from 1982 until 1989. She has worked with the Chugach Natives, Inc. as a paralegal. She has received numerous grants and awards to enable her to work on human rights issues. She is Chairperson of the Seventh Generation Fund, a Native American foundation along with being a member of several other national boards. She has been a speaker at many international meetings dealing with the rights of indigenous peoples from around the world, with environmental issues, and with circumpolar issues. We believe that Ms. Sambo will provide the IUCH with a solid beginning as its first Executive Director. We believe her ability and background will lay the foundation for an organization that will grow in stature and continue to be a model for all circumpolar activities.

While we celebrate our new and growing organization we need to remember those who made it possible, Dr.s Albrecht and Milan. In that thought the Albrecht-Milan Foundation needs your help. The Society has created a mechanism for you to make tax deductible donations for the betterment of circumpolar health. We need start-up funding. Please consider the Albrecht-Milan Foundation this year as a worthy group for your contributions. As the annual income tax review is about to begin remember that you may give to this Foundation and deduct that donation to the full extent of the law. As a thank you to these pioneers in cooperative international health efforts please contribute.

**Other news.** As I announced in the last letter, the 9th International Congress for Circumpolar Health will take place in Reykjavik, Iceland on June 20-25, 1993. Put that on your calendar. The University of Iceland will host the Congress with five modern and well equipped convention halls on the campus only a few yards from a school for poster sessions and Hotel Saga with smaller meeting rooms and dining facilities.

The scientific program will focus upon the present priority areas of the Nordic Council for Arctic Medical Research, i.e. primary issues of cold research and accident (injury) prevention, and secondly of environmental medicine and family health. The Native program will be organized under the direction

of their new Minister for Health and Environment in Greenland, Inuit Dr. Ove Rosing-Olsen.

I have received a few, but only a few, comments regarding this up-coming international health event. The Council of the International Union for Circumpolar Health, of which Dr. John Middaugh and I represent the American Society, will be meeting in mid-February 1992 with the Icelandic / Greenlandic organizing committee. Please, if you have concerns, questions, or comments about the planning of the 9th Congress please contact Dr. Middaugh or myself prior to the February meeting. We will gladly find out whatever information we can. I do have a direct contact FAX and telephone if you wish to send your ideas directly, however I would like the Society to act as a funnel to the Icelanders.

There will be a need for individuals to work from our Society as representatives for the International, Scientific, and Native advisory planning committees. We are also in need of recommendations on key note speakers, and session chairs. These names will be shared at the February meeting so that the organizers know what resources are available to them. The Icelandic Nurses Association is being involved at the earliest time and we need to know who from the American Society would like to be the contact for the Alaska Nurses Association. This will be true for the other specialties as well; Dietitians, Health Educators, etc. who have their own groups but who also will want to coordinate through the Society for assisting in the 9th ICCH.

Again in light of the planning that is required for such a Congress the American Society is beginning to look to 1996 when the Congress is to be held in Alaska. We need interested members to make themselves known to the board now. It is early, however we need to begin to look at facilities now; that means a facilities coordinator who will work with the Society to assure a top quality meeting. We need people who are interested in raising seed dollars and support for hosting such an international meeting. We need people who will come up with a logo, a slogan, a program, a design for the events. We will need an editor for the proceeding. We will need community hosts for the 1,000 visitors we can expect who will be attending. We need ideas for how to improve on the earlier Congresses.

If you have energy, ideas, and enthusiasm for the International issues around circumpolar health we need you starting now. Please provide any board

member with your ideas and comments. Give us feedback if you have attended other Congresses or other large international meetings; what worked, what did not. We need to know what were the high points as well as what were the low points. The only way we can host a meeting like we did in 1984 is to begin working on it now. This is your Society, we all need to take part of the responsibility in assuring a successful 10th ICCH.

In addition to the 10th ICCH, the Society would like to host more events like the day long tobacco in the Arctic meeting during which we held our annual meeting. There is discussion of a Health Summit in the spring of 1992. This would be an effort of the Alaska Public Health Association along with a number of other health care professional, provider, and consumer groups. If you want to become involved in the planning and hosting of these types of meetings then please let me know. We will seek funding and support to make an idea a reality. We want to address major concerns and deal with them on a board Arctic perspective.

The Board members are listed here for your information.

<b>Carl Hild</b>	<b>President</b>
<b>David Templin, MD</b>	<b>Vice-President</b>
<b>Jeanne Roche</b>	<b>Secretary</b>
<b>Anita Tigert</b>	<b>Treasurer</b>
<b>Brian McMahon, MD</b>	
<b>Phil Nice, MD</b>	
<b>Frank Pauls, Dr.P.H.</b>	
<b>J. Michael Holloway, MD</b>	

The Board is a small group of individuals who are representing our Society on a broad international

base. We need to involve all of our members in these efforts. The support we can give the Icelanders and Greenlanders for the 9th ICCH will help us all prepare for the activities of hosting the 10th ICCH. It is clear that the exchanges of information and cooperative research that has resulted from these meetings are not just for that day or that year. The proceedings have become an invaluable permanent record of the breadth and depth of research in the circumpolar region. The relationships that are formed during these meetings have built the foundations of cooperative research, joint programs, and professional exchanges.

It has been an amazing year, 1991. While we are completing our 24th year of international cooperation, the countries of Eastern Europe are completing their first year of new found freedoms. Germany is one country, while the Soviet Union is clearly now a number of countries and states. The Presidents of the two countries with "super power" in military have announced dramatic reductions in nuclear weapons. This is the time of year when many people and groups think of peace. The elimination of war would be a giant step in improving world health, both directly and indirectly.

May 1992 bring us all a safer and healthier world in which to live. May it also bring a renewed commitment from each of us to work actively toward doing all we can to foster international cooperation and understanding.

Sincerely;

Carl





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# Loss Prevention

by Megan Isadore

## FOLLOW-UP SYSTEMS CAN REDUCE MALPRACTICE RISK

A patient follow-up system can save a physician heartache and money. It is a simple way to ensure that patient care is monitored for appointment keeping, lab results, compliance with instructions, and continuity of care.

Documentation is the heart of the system. The follow-up attempts must be documented to ensure continuity of care and to prove, if necessary, that follow-up occurred.

Consider the following case illustration:

Dr. Sandy, a family practitioner, met Mrs. Bide for the first time when she came into the office after hurting her back. Dr. Sandy noted during the history and physical that she had not had a Pap smear in the past three years and suggested she have one. Mrs. Bide declined. For the next two years, Dr. Sandy saw Mrs. Bide several times for general medical problems. Dr. Sandy told her on at least two occasions that she needed to have a Pap smear, but Mrs. Bide did not wish to do so.

Mrs. Bide next came in for joint swelling and shoulder pain, whereupon Dr. Sandy ordered tests to discover the cause. Once again she suggested a Pap smear, and again Mrs. Bide declined, saying that because she was not sexually active, she did not need a Pap smear. Dr. Sandy explained that sexual activity has nothing to do with the need for a Pap smear, but Mrs. Bide still declined, saying that she couldn't afford to pay for it. Dr. Sandy offered to wait for payment, but Mrs. Bide refused.

Five months later Mrs. Bide returned because she was experiencing heavy vaginal bleeding and cramping between periods. Dr. Sandy scheduled a Pap smear, but was unable to get results because Mrs. Bide had a heavy vaginal discharge that obstructed visualization of the cervix. She asked Mrs. Bide to return for a Pap smear the following week, after taking medication for the vaginal infection. Mrs. Bide missed the appointment and did not schedule another one.

Two months later, Mrs. Bide presented at an emergency room because of heavy vaginal bleeding and pain. Her cervix was found to be almost completely replaced by a metastasized tumor. Mrs. Bide died seven months later, and her family sued for failure to diagnose cervical cancer.

The case was settled because the lack of documented follow-up would have damaged the defense. Documentation would have bolstered the defense in the following areas:

**Noncompliance.** When Dr. Sandy met Mrs. Bide and suggested a Pap smear, she documented that advice. The subsequent visits for general problems included documentation of those problems only; Dr. Sandy never documented her ongoing advice to Mrs. Bide to have a Pap smear. Mrs. Bide was never placed in the follow-up loop, so a condition that might have been caught earlier was not. As Mrs. Bide's care continued, there was no mechanism to ensure that Dr. Sandy would continue to follow up with Mrs. Bide regarding her Pap smear, including providing informed refusal.

**Missed appointments.** Mrs. Bide missed her Pap smear appointment. Dr. Sandy's office had no follow-up system in place to ensure that she made another appointment. At the end of the day, a physician should review charts of patients who have missed appointments and determine appropriate follow-up. Office staff and the physician can then work together to ensure that patients who need follow-up appointments are contacted.

**Abnormal lab or X-ray results.** The same system can work for abnormal lab or X-ray results. After the physician reviews the results, office staff can transfer the necessary information to a follow-up file. The physician and staff should have a procedure to ensure that the patient is contacted by phone or by letter. Follow-up phone calls should always be documented in the patient's chart, and copies of follow-up letters saved. Once the patient is contacted, it is crucial to track the patient's compliance. A patient who does not follow up must be informed of the consequences of refusal.

**Referral/consults.** When a primary care physician makes a patient referral, he or she is responsible for ensuring that the patient complies. If the patient refuses to comply with the referral, the primary care physician's responsibility is to inform the patient of the consequences. Again, there should be a follow-up procedure in place, both to track patient compliance and ensure the referral report is received.

(continued on page 179)



When things seem the same,



there's often more than meets the eye.



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# History of Medicine in Alaska

## WOMEN IN MEDICINE IN ANCHORAGE

*In 1958 the number of physicians in practice in Anchorage was few. But there were a surprising number of M.D. couples. Some of the women are recalled here.*

**Louise Ormand Hillman** was graduated from Wellesley College and the University of Rochester School of Medicine. Despite finishing medical school a year late because of tuberculosis, she was elected to Alpha Omega Alpha. Following an internship at Strong Memorial Hospital, she had four years of residence-fellowship at Rochester, University of Washington and Cornell.

In 1955, she married Fred Hillman and they came to Anchorage in 1958 when Fred began service as a surgeon at the Alaska Native Hospital of the USPHS. Louise was to serve as a consultant there. In 1960 she established the first solo practice of internal medicine within the state.

Five years later, the Hillmans adopted three sons and Louise gave up her practice gladly for fulfillment in motherhood. She did continue part-time as consultant in the Alaska Division of Occupational Rehabilitation.

Much later, she and Fred studied transactional analysis. She passed the first part of a difficult examination which would have qualified her as an analyst.

She died in 1977 after a valiant struggle with cancer. Her patients had found her a caring and competent doctor. Her friends valued her affability. She was an exceptionally non-judgemental person.

**Martha L. Wilson** pursued a different course thorough the Public Health Service. She earned her M.D. degree from the Medical College of South Carolina in Charleston. She completed a residency in internal medicine at the McGuire V.A. Hospital in Richmond, Virginia. Dr. Wilson's career with the Public Health Service began in 1956 at the Indian Tuberculosis Hospital in Tacoma, Washington. She first came to Alaska in 1959 as chief of medicine at the Mt. Edgecumbe hospital. After two years, she came to Anchorage as assistant chief of the tuberculosis unit at the Alaska Native Hospital.

Married to Dr. Joseph Wilson, chief of surgery at the Alaska Native Hospital, she was affectionately called "Dr. Martha". Capable, she was rapidly promoted becoming Chief of the Office Program Development for the Alaska Area Native Health service and in 1973 was appointed project delivery director for the ATS-6. This was a satellite experiment in health care delivery.

Quickly, she recognized the values of space technology, feeling that satellite communication could be a vital part of the solution to the medical and social problems which exist in sparsely populated rural areas in Alaska and in the world. She was nominated for several honors for the Alaska Satellite Telemedicine

Project which demonstrated the feasibility of patient care being rendered by video transmission along with the simultaneous transmission of heart and breath sounds.

The Drs. Wilson had four children. Dr. Martha died of cancer in 1980. Professionally, she was skilled and innovative. Her work on behalf of the Alaskan Native was prodigious. She

was a lovely, lively person.

**Dr. Yurn Ock Dunn** was called "Ollie". She was born in Hawaii of Korean parents. Her medical degree came from the University of Oregon. Married to Dr. Wallace Dunn, they came to Alaska in 1959.

She was a general medical officer at the Alaska Native Hospital but after one year, the Duns went to Chicago where they trained between 1961 and 1964. At Cook County Hospital, she went into dermatology and he otolaryngology.

After returning to Anchorage, Ollie started the first dermatology practice which she continued until her death from cancer in 1977. At the same time, she served as a consultant to the Public Health Service. She was considered skillful in the management of fungus diseases of the skin and of acne. She believed the cause of acne rosacea to be the skin mite *Demodex follicularis* which she became expert at locating and eradicating. In her obituary, the writer states: "In a field of

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**They led the way: the first psychiatrist, the first solo internist, the first pediatric neurologist and the first dermatologist.**

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medicine characterized by empiricism she discriminated better than most between fact and voodoo."

Dr. Ollie Dunn was the mother of four children. She still found time to sing with the Sweet Adelines, a women's "barber shop" group.

Dr. Virginia Wright had the distinction of being the first board certified psychiatrist in the Territory of Alaska. She was born June 23, 1916 in Manila, Philippines where her father was stationed during World War I, but she grew up in Palo Alto, California.

She started school at age five and became part of the Stanford-Binet IQ Test Control program and was tracked for years by the program. She attended Pomoma College for two years, entering at age sixteen, and finished at the University of California, Berkeley.

Because her grades were straight "A's", she was one of the few women accepted into medical school at the time. When she graduated from the University of California Medical School, she had first choice of internship. She did this and a residency in psychiatry and neurology at San Francisco County Hospital.

She moved to Galveston, Texas where she practiced general medicine until she entered the medical corps. Stationed at Dibble Army Hospital, a tuberculosis hospital in Mento Park, California, she contracted T.B. and became a patient. But she also met Dr. James O'Malley. They were married on June 23, 1945. Shortly afterwards, she was transferred to Fitzsimmons General Hospital, Denver, Colorado for further treatment. She applied for a medical discharge from the Army and when she received it, she rejoined her husband in California.

They came to Anchorage in February, 1946 while she was pregnant with the first of their nine children and she worked with her husband as a general practitioner in an office on Fourth Avenue.

Between pregnancies, she went to New York to take her psychiatry boards. She maintained a psychiatry practice part-time by having two 40-hour a week women to help at home. She practiced three afternoons a week and was exceedingly generous, often treating without charge. She was active in the Mental Health Association and instrumental in establishing the Parents Association of Retarded Children. She also promoted legislation for PKU testing.

She accomplished all this despite having multiple sclerosis and three major cancers. She died in 1981.

Helen Stoddard met and married Bob Whaley while both were studying at the University of California Medical School. To avoid any conflict, she went into pediatrics rather than internal medicine as Bob did. While he served in the Air Force in Alaska, she took training in pediatrics in Denver and then came to Anchorage to join the Anchorage Medical and Surgical Clinic.

In 1955-56, both Whaleys trained in Boston. She worked with Dr. William Lennox, a famous electroencephalographer. She became very interested in brain damaged children.

Returning to Anchorage, she practiced with Dr. John Tower for nine years. In 1965-67, Helen served a neurology fellowship at Stanford. She spent the rest of her career working with brain damaged children. Her goal was to start a special school for them.

When she died of cancer in 1971, she was proud to have outlived the other female members of her family who had breast cancer. The Whaley Center was opened in 1972 and named after Helen. "She would never have allowed them to do that while she was alive," states Jean Persons.

Helen Whaley had an aura of exceptional competence. Because she was a very private person one felt privileged to be a friend. The rewards of being so were tremendous.

All of these women doctors shared the difficulties of being female. At a time when women's colleges provided only a liberal education, and the number of women admitted to medical school was small, one had to be good indeed to earn an M.D.

Most of them shared the social attitude that children were part of all of this. Among them they had twenty offspring.

All of them were specialists. This was important for Alaska where the arrival of Statehood in 1959 coincided with the influx of the specialists. They led the way: the first psychiatrist, the first solo internist, the first pediatric neurologist and the first dermatologist. One was a superb administrator.

They all died of cancer, an unfortunate end to such talented lives. They were married to physicians. They were fun to know, a varied, quite marvelous lot.

Gwynneth Gminder Wilson  
Alaska State Medical Association Auxiliary

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## A bloody skirmish in Kotzebue Sound (1827)

Nothing like the destructive and cruel "Indian Wars" of the American western plains occurred during the exploration and settlement of Alaska by Europeans. In earlier times, at least, neither the Russians, nor somewhat later the Americans, coveted land as such; rather, they saw opportunities for developing for profit the resources of the new land and its surrounding seas. They also came to an early recognition that exploitation would be impossible without the help of the Alaska Natives themselves. For example, without the special hunting skills of the Aleut and Koniag hunters, the Russians were quite incapable of exploiting the trade in sea mammal fur; likewise, the vast fur resources of the interior could not be developed into a profitable trade without Eskimo and Athabascan hunters and trappers.

Most explorers--Russian, British, and American alike--came with strict orders from their sponsors to treat the Natives with kindness and respect. By and large relations between the Natives and the newcomers were friendly. When, however, the Natives felt that their families or way of life were threatened, they were not slow to defend their right courageously by force of arms. Among several notable examples may be cited the violent Aleut uprisings against the Russian traders in 1762-64, and the Tlingit destruction of the first Russian settlement in Sitka Bay in 1802.

Captain Beechey, like other British explorers, tried especially hard to maintain good relations with the Natives. In the excerpt to follow, he describes a reluctant armed encounter in September 1827 between his men and the Eskimos near the Choris Peninsula in Kotzebue Sound. According to Beechey's account, a small party of Eskimos he calls "trouble-makers" openly provoked two parties from the ship, one of which was filling water casks and the other digging a grave for a dead comrade. Hostilities were initially averted by the good counsel of an elderly Eskimo. Two weeks later, however, some of the same group threatened another watering party, leading to the conflicts described below. Beechey tried to restore the peace by repairing a damaged umiak and leaving some gifts with it, but relations remained strained. The expedition sailed for home the following month.

---

"Mr. Belcher fired a ball between them and the shore, and waved them to begone. Instead of obeying his summons, they paddled on shore instantly, and quitted their baidar for a small eminence near the beach, from whence they discharged a flight of arrows,

which wounded two of our seamen. Their attack was of course returned, and one of the party was wounded in the leg by a musket ball.

"Until this time they were ignorant of the effect of fire-arms, and no doubt placed much confidence in the thickness of their clothing, . . . but seeing the furs availed nothing against a ball, they fled with precipitation to the hills. . . .

[Two weeks later] "We had not proceeded far, when suddenly four of the marines were wounded with arrows from a small ravine, . . . The natives were lying upon the ground, peeping between the blades of grass, and discharging their arrows as opportunity offered. In return, one of them suffered by a ball from Mr. Elson; on which I stopped the firing, and endeavoured ineffectually to bring them to terms. . . .

"On examining the ravine in which they had concealed themselves, we found one man lying dead, with his bow and quiver, containing five arrows, placed under his body. . . .

"The effect of the arrows was fully as great as might have been expected, and, had they been properly directed, would have inflicted mortal wounds. At the distance of a hundred yards a flesh-wound was produced in the thigh, which disabled the man for a time; and at eight or ten yards another fixed the right arm of a marine to his side; a third buried itself two inches and a half under the scalp. The wounds which they occasioned were obliged to be either enlarged, to extract the arrows, which were barbed, or to have an additional incision made, that the arrow might be pushed through without further laceration. Most of these wounds were inflicted by an arrow with a bone head, tipped with a pointed piece of jasper.

"We were sorry to find our musketry had inflicted so severe a chastisement upon these people, but it was unavoidable, and richly deserved. It was some consolation to reflect that it had fallen upon a party from whom we had received repeated insult, and it was not until after they had threatened our boat in Eschscholtz Bay, . . . had twice drawn their knives upon our people, and had wounded several of them, that they were made acquainted with the nature of our firearms; . . ."

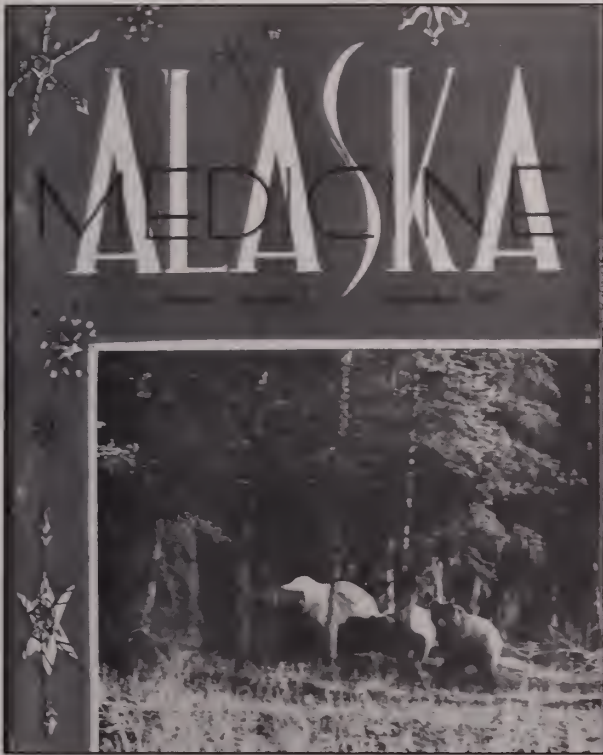
## REFERENCE

Beechey, Fredrick W.: *Narrative of a voyage to the Pacific and Beering's Strait, to cooperate with the polar expeditions... in the years 1825, 26, 27, 28.* Two vol. (Reprint) New York: Da Capo Press, 1967; 2:285-88.



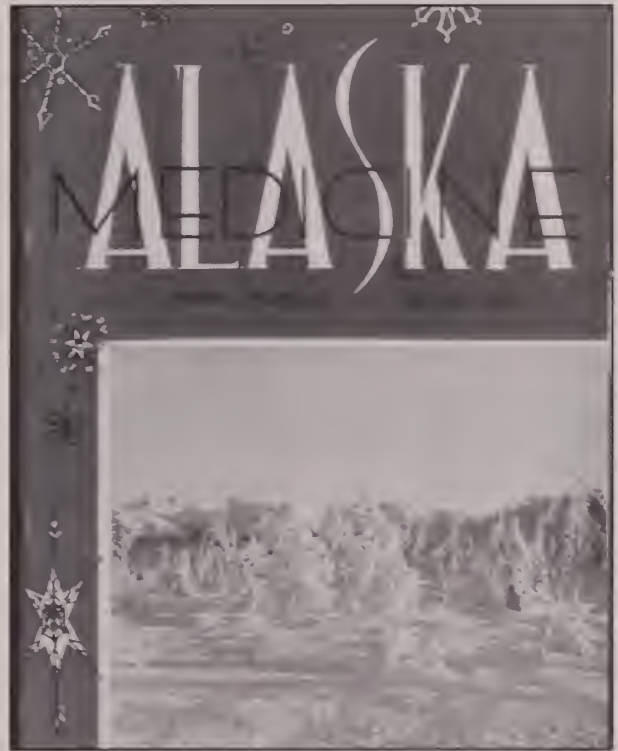
# From Out of the Past -- Over 30 Years Ago

by Gloria K. Park, M.D.



Volume 2, No. 3 Cover

September 1960



Volume 2, No. 4 Cover

December 1960



Perry A. Mead, M.D.

"Intracranial Tuberculomas - Experience with the Alaska Native Health Service, Anchorage 1954-59".

At one time tuberculomas comprised 13.6% of all adult brain tumors (1889) and fell to 1.4% in 1927 in the "South 48" but in Alaska Natives the rate was 35% in 1954-59. [I recently saw case #3 at the Alaska State Fair and was again reminded of the ever present menace of tuberculosis and its varied diagnostic challenge.]

"Five Case of Hydatidiform Mole in Eskimo Women of the Kuskokwim Region" by William H. Brownlee, M.D., USPHS, Bethel. These five cases occurred in a population of 12,000; four within an 8-month period and three were from a population of only 500.



Rodman Wilson, M.D.

"Mountain Medicine: Comments on the Rescue of Climbers on Mount McKinley in May 1960".

On May 17, 1960, four experienced mountaineers from Seattle, Washington, were injured in a fall down an icy slope high on Mount McKinley, Alaska's 20,320 ft. peak. I was a member of an Anchorage climbing party coming down from the summit at the same time. We were nearby quite by chance. In the ensuing week the four injured men, a seriously ill woman climber in our party, and an ill man in a ground rescue party were evacuated from the mountain under difficult, dangerous conditions.\* I learned a lot about the care of the ill and injured in the mountains during this dramatic week.

\*The story of the rescue was volubly reported in the press. Accounts appeared in Life, June 5, 1960, and in The Saturday Evening Post, Nov. 26, 1960.

Other significant medical reports included: "Principles in the Care of Hand Fractures" by Adrian Flatt, M.D., "The Prevention of Tuberculosis" by Julius L. Wilson, M.D. "Frostbite (Part II) Experience with Rapid Rewarming and Ultrasonic Therapy" by William J. Mills Jr., M.D., Robert Whaley, M.D., Winthrop Fish, M.D. [The three articles on frostbite were later reprinted as a separate unit.]

## IN MEMORIAM

John Harold Clements 1902-1960. "Dr. Clements of Juneau died suddenly at St. Ann's Hospital shortly after he developed an acute myocardial infarction at his office in the Juneau Doctor's Clinic. Intensive efforts to resuscitate him including thoracotomy and two hours of cardiac massage failed." He practiced in Wrangell 1935-1945, then Juneau until his death in 1960.

Editorials and Letters to the Editor reflected on the political juggling effecting the State Health and Mental Health Departments; child adoption laws in Alaska and plans for the 1961 annual meeting in Sitka. There was also a report on the opening of the University Hospital in Seattle and its referral policy.

## MUKTUK MORSELS:

**Cordova** - Locum tenens for Dr. Tedesco was served by Dr. Robert Billings.

**Kodiak** - Dr. A. Holmes Johnson has retired and will travel.

**Seward** - Dr. Paul Isaak is commuting back and forth between Soldotna and Seward in his own plane.

**Anchorage** - After resigning from the State Mental Health Section, Dr. J. Ray Langdon has entered private practice. Drs. Theodore & Rosalie Shohl have started surgical and anesthesiology practices. Dr. George Wichman has joined the Anchorage Clinic. The cornerstone of the new 160 bed Providence Hospital was set in the Goose Lake area. Work has also started on the New Alaska Mental Health Hospital nearby. New physicians at the Alaska Native Medical Center included Drs. Gilbert Blankinship, James Baldauf and Charles Tschopp. Dr. Joe Shelton has become a registered big game guide.

**Glennallen** - Dr. Chester Schneider has rejoined Dr. Jim Pinneo.

**Bethel** - Dr. Harriet Jackson (Shirmer) continues as mayor.

*Familiar Faces . . .*

These are the drug and medical equipment company representatives who visit us in Alaska. Always friendly, always helpful, these salesmen are an integral part of the American medical scene, where in drug and equipment houses compete for favor among physicians by constantly striving to better their products. Long may the system—and such men as these—survive! Pictures were taken at the Alaska State Medical Association meeting in Anchorage in February 1960.



From left to right: Gordon Munger, Ballerue, Washington, Parks, Davis & Co., Clyde Place, Seattle, Washington, E. R. Squibb & Sons, Temple Meyer, Portland, Oregon, Wyeth Laboratories, Max Countymore, Seattle, Washington, Merck Sharp & Dohme.

From left to right: C. V. Kirk, Oakland, California, McNeil Laboratories, Martie, Ripney, Anchorage, Alaska, Electro-Medical Sales, L. B. Leng, Spokane, Washington, Western X-Ray Co., Joe Mullins, Anchorage, Alaska, The Upjohn Co.

From left to right: Leonard "Barney" Barnes, Anchorage, Alaska, Eli Lilly & Co., Paul Tsatsounis, Anchorage, Alaska, Pfizer Laboratories, Paul Roberts, Seattle, Washington, Mead Johnson & Co., Chuck Schmidt, Seattle, Washington, Ortho Pharmaceutical Corp.

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From left to right: Birger "Meaty" Martinsen, Seattle, Wash., Picker X-Ray Corp., Darrell Muller, Anchorage, Alaska, Lederle Laboratories, Leonard Francoeur, Anchorage, Alaska, Don Basler, Inc.

From left to right: John McKinney, Tacoma, Washington, Schwinn Corp., Larry Lynn, Alderwood Manor, Washington, A. H. Robins Co., Bill Scott, Seattle, Wash., Warner-Chilcott, John Christensen, Seattle, Wash., Geigy Pharmaceuticals.

From left to right: Chuck Phillips, Lywood, Wash., Entco Laboratories, Gene Lombardi, Tacoma, Wash., Boyle & Company, Joe Kuhn, Seattle, Wash., Burroughs Wellcome & Co., W. E. "Doc" Donaldson, Oakland, Calif., Ciba Pharmaceutical Products.

From left to right: Marm Lough, Edmonds, Washington, Ayerst Laboratories, Bob Barber, Seattle, Washington, A. S. Alon Co., Cal Bental, Port Orchard, Washington, Abbott Laboratories, Russ Carter, Seattle, Washington, Biddle & Crowther Co.

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ALASKA MEDICINE

Though many of the faces have changed somewhat, most of the companies are still faithfully helping to support our journal with their ads. They are appreciated.



Fairbanks - Dr. Joseph Ribar was recently elected mayor, replacing Dr. Paul Haggland who was named Fairbanks "Man of the Year".

Sand Point - Dr. Carl Sandberg has set up a medical clinic. Babies joined the families of Dr. Jean Persons (Bethel), Dr. Gloria Park (Anchorage), Dr. Win Fish (Anchorage), Dr. James Lundquist (Fairbanks), Dr. William Maddock (Anchorage), Dr. Ralph Carr (Ketchikan) and Dr. Marshall Simpson (Palmer) who produce the following:

THE NINTH OF JULY

by Marshall A. Simpson, M.D.

'Twas the ninth of July, when all thru the house  
Not a creature was stirring, except for a mouse  
Mother's clothes had been gathered and parked with  
great care,  
In hopes that her contractions soon would be there

Pamela was nestled all snug in her bed,  
While visions of a brother danced in her head  
And Barbara in her P.J.s, and I in my shorts,  
Had been sleeping so quietly, except for her snorts,

When all of a sudden my wife was complaining  
I sprang from the bed to see what was a-paining  
And down to her bottom I went for a peek  
To quickly see lips that were not cheek to cheek

The man in Alaska had been already  
While a gentle breeze made leaves shake like  
confetti,  
When what to my wondering eyes should appear,  
But a bulging membrane, and a tonial of hair,

With marked dilatation, and descent so quick  
I knew in a moment it wasn't St. Nick  
More rapid than eagles the pains they came,  
And she whistled and shouted, and I called  
my wife's name

"Now Barbara behave, through your mouth please  
breathe,  
This isn't the time or the place to heave  
To the top of the bed, almost to the floor,  
She grunted and groaned as if she were sore

She knew that the time was not very far away  
Listen closely my sweet, to what I must say  
Pull on your pants, to the office let's run,  
Do not deliver here my small son."

So very quickly she dressed, and went for the door  
Alas! Another hard pain, she could go no more  
Back to bed with wife "What else could I do"  
This baby was coming, I had to see it through

No bag had I, nor medical kit  
No tools to work with, how could I do it?  
Ah! Here is some alcohol, wicks better than soap,  
Sterilizes completely, at least I hope

Epiostomy? No! The head's now through  
A dilated perineum will have to do  
The membranes they bulged, like a little round belly  
When she strained down hard, they shook like  
they were jelly

The water it broke, and it covered the sheet  
The head fast descended, then the body, then feet,  
I grasped them so firmly, and gently held them high,  
And the little infant let out a very long cry

The babe was thin, not plump, just looked like an elf  
Was all really well, I quickly prayed to myself  
A wink of the eye and a twist of the head,  
Soon gave me to know, I had nothing to dread

I said many a word, but went straight to work  
Cleaned up the baby, and taking the place  
of the alok,  
After helping my wife to the Ford machine,  
The wee one I presented to Pamela Jean

She sprang to her feet, and said "Where is the other?"  
I don't want a sister, I want a baby brother!"  
But I heard her exclaim as we left the driveway  
"Happy birthday to Marsha Lynn, and to all  
good-day"

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ALASKA MEDICINE

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## YOHIMBINE HCl

**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon® is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly not to be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

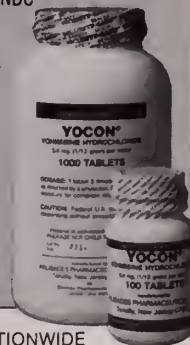
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

**References:**

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological Basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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# President's Corner

## NEWS FROM THE ROAD



by Jennifer Christian, M.D., M.P.H.

Ray Schalow and I have been making "house calls" of a kind. We have visited Fairbanks, Homer, Soldotna and Anchorage hospital medical staff meetings, bringing news from ASMA

on state, national and local issues. You have received us kindly, and the exchange of information has been excellent. The best moments were those when you got up and told us what we'd done wrong and done right.

For the last three years, Ray and I have been trying to find the best way to get in touch with you. We've learned that many of you throw our mailings out, unread. The telephone is inefficient. Notices on the medical staff bulletin board don't have much "fire" in them. Medical society meetings seem like just another obligation to so many over-obligated docs.

We are very happy to have found this way to talk together. ASMA is perceived in some quarters as too "Anchorage-oriented", and these "house calls" are helping dispel that notion.

If you *don't like* what we are doing, please tell us. If you *do like* it, tell us to do more. You are the constituency we serve. The actions, policies and activities of ASMA are driven by *our perception of what you want*. Face-to-face meetings, phone calls, and letters are the only means we have of learning your desires.

Please understand, however, that we are a representative organization. Our official policies are the result of votes -- majority rules. And, our actions and activities will reflect the leadership's view of what is socially and politically possible at the moment.

On that note, more than 90% of the physicians at the meetings in Fairbanks, Anchorage and Soldotna voted "yes" to have ASMA actively enter the fray on health system reform in Alaska!! We will work for consensus legislation in this arena. I think most of us are willing to make compromises on the financial side, but only if it is traded for less fear (malpractice reform) and less paperwork (regulatory and bureaucratic reform).

---

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(continued from page 157)

- Develop extended collaborations in critical areas of research need with laboratory scientists in the parent institution and other institutions.

The SPORES would expand the basic research in prostate cancer, and translate the findings from that research toward the ultimate objective - to increase and improve survival and reduce the incidence of mortality of the disease.

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(continued from page 171)

**Documentation.** If the patient is not cooperating, missing appointments, or not making necessary appointments, the follow-up system will remind the physician that these things are happening and provide proof that the physician was not negligent. Although Mrs. Bide behaved irresponsibly in not complying with Dr. Sandy's advice, Dr. Sandy could not prove that she had properly advised Mrs. Bide. If the case had come to trial, the defense would have been badly damaged by the lack of documented follow-up.

*Ms. Isadore is a loss prevention analyst at NORCAL Mutual Insurance Company, San Francisco. This article is presented to promote discussion and learning about loss prevention. Specific legal questions should be referred to legal counsel.*

## In Memoriam



**Gilbert P.  
Blankinship, M.D**  
1930 - 1991

Longtime Anchorage physician Gilbert P. Blankinship, 60, died October 31 at Providence Hospital.

Dr. Blankinship was born November 13, 1930, in Lynchburg, Virginia. He received his bachelor of science degree in pharmacy in 1952 and his medical degree in 1956 from the Medical College of Virginia in Richmond. He served his internship and first year of residency in internal medicine at Norfolk General Hospital in Norfolk, Virginia. Dr. Blankinship's second and third years as a resident were spent at Charity Hospital of Louisiana in New Orleans.

In 1960, he came to Alaska to do his military service with the U.S. Public Health Service at the Alaska Native Medical Center. In 1963, he entered private practice in internal medicine here.

Dr. Blankinship was a past chief of staff at Providence Hospital and a past president of the Anchorage Medical Society. He was a long standing member of the Alaska State Medical Association.

In addition to many professional involvements, he enjoyed downhill skiing as well as fishing Alaska's waters and traveling our great state.

## Letters to the Editor

### ON CANADIAN HEALTH SYSTEM

*Letter in response to Congressman Don Young's article in Alaska Medicine, Volume 33, No. 3*

Dear Sir:

I am writing in response to your article on National Health Care in the summer issue of Alaska Medicine. This letter is to express my whole-hearted support of your thesis that the Canadian health care system is not one we should emulate.

Of the 19 years I have been a member of the medical profession, 10 years have been in Alaska and 9 in Alberta, Canada. I have been involved in both systems as a patient, a provider, and an observer. When I first came to Alaska in 1980, I spoke favorably of the Canadian system vis-a-vis the myriad of private and government payors we deal with here.

However, over the past 11 years, I have observed a steady decline in the care Canadians receive under their system. The most glaring deficiency is in access to specialist care. My conclusion, drawn from observations from all three viewpoints, is that the Canadian system rations specialty services to control costs. I was pleased to note in your presentation that these conclusions are in accord with other observers of the system. It is shocking to see Albertans waiting weeks to months for care to which our patients have access in Anchorage in a matter of days. Several of the "rationed" procedures cited in your article are the same ones I had observed.

The only way for Canadians to obtain more services is for them to pay more. Most seem unwilling to do so. We are amused by the loud moanings of our relatives when their health care premiums do up by a few dollars, premiums which are about 10% of what we pay for considerably less-comprehensive coverage by private insurance in this country.

I also strongly support your other major premise in the article, that one of the most significant ways to reduce health costs is to address the social issues behind so many diseases. eradicating just one risk such as tobacco use would enormously reduce the national cost of health care.

Yes, there are real issues to be dealt with. Health care does cost a lot. But a universal system modelled on the Canadian plan is not the answer. Frankly I believe the Indian Health System has already started down this road. Let's work to keep the entire system from following suit.

Sincerely,

V. Sharlane Donaldson

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**ANNOUNCING MD 2000:  
AMA'S CAMPAIGN TO STRENGTHEN  
ORGANIZED MEDICINE**

Dear Colleague,

Membership in the American Medical Association has been static for the past twenty years. Without growth, our ability to influence the future of medicine and to defend physicians and their patients is in jeopardy.

The American Medical Association believes it is a time for new thinking, new ideas and new solutions. That's why we're launching a major communications program we call MD 2000.

MD stands for Member Driven . . . what we must continue to be if we are to succeed. The 2000 stands for the year 2000, the year in which we hope to achieve our membership goal of half of all physicians participating in the AMA.

Our first step is to take the story of America's physicians to the general public, in a dramatic advertising campaign beginning in August in Time, Newsweek and U.S. News and World Report. The goal of the program? To tell the American people that AMA member physicians are caring, concerned -- and that our association is vital to solving our nation's public health challenges. Membership versions of these ads will carry our message in major medical journals, as well.

We need your support and your involvement to achieve success.

Materials describing this exciting new communications program -- including an MD 2000 Federation Timetable and a list of ways you and your medical society can participate have been sent to your local state association.

I urge you to convey the goals of MD 2000 to your staff and members and to encourage their involvement in its implementation. You can start by assigning one of your key staff to assure effective coordination of MD 2000 communications and programs in your society -- and by devoting space in your publications for reprint of federation versions of these powerful new membership ads. We believe in the health of this nation and of our profession. Imagine organized medicine speaking with a voice that is 600,000 members strong. You can help to make it happen

Sincerely,

James S. Todd, MD  
Executive Vice President  
American Medical Association

**HUNGARIAN LECTURE COURSE**

Dear Colleagues,

I wish to inform you that the Romanian Society for Immunology, with the sponsorship of the German Society of Immunology, organizes a lecture course on "Tumour Immunology" to be held directly following the 8th International congress of Immunology in Budapest, Hungary. The course will be the first of a series, termed "John Humphrey" courses, which will be held under the auspices of the European Federation of Immunological Societies. This course will take place between 30 August - 3 September 1992 in Iasi, Romania, as a satellite conference to the 8th International Congress of Immunology.

the faculty for this course are outstanding personalities in immunology. The organizers are doing their best to stir the interest of the scientific public aboard, so as to make them feel interested in attending the course.

The course also represents a new opportunity to stop the isolation Romania has been confined to for more than 20 years.

that is why we wish to ask for your support in identifying young researchers who might be interested in the topic of our course.

We should be very grateful if you could spread the information about the above mentioned event among the scientific community. The Romanian Scientific Community, which is a very motivated and eager group, would tremendously benefit from your much appreciated assistance.

Yours faithfully,

Eugen Carasevici, MD  
Clinica De Oncologie  
Laboratorul De Imunologie  
Tumorala  
Spitalul Universitar  
"SF.Spiridon"  
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**Warnings:** Verapamil should be avoided in patients with severe LV dysfunction (eg, ejection fraction < 30%) or moderate to severe symptoms of cardiac failure and in patients with any degree of ventricular dysfunction if they are receiving a beta-blocker. Control milder heart failure with optimum digitalization and/or diuretics before Calan SR is used. Verapamil may occasionally produce hypotension. Elevations of liver enzymes have been reported. Several cases have been demonstrated to be produced by verapamil. Periodic monitoring of liver function in patients on

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hypotension were seen in patients treated with verapamil.

**Precautions:** Verapamil should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Verapamil may decrease neuromuscular transmission in patients with Duchenne's muscular dystrophy and may prolong recovery from the neuromuscular blocking agent vecuronium. It may be necessary to decrease verapamil dosage in patients with attenuated neuromuscular transmission. Combined therapy with beta-adrenergic blockers and verapamil may result in additive negative effects on heart rate, atrioventricular conduction and/or cardiac contractility; there have been reports of excessive bradycardia and AV block, including complete heart block. The risks of such combined therapy may outweigh the benefits. The combination should be used only with caution and close monitoring. Decreased metoprolol and propranolol clearance may occur when either drug is administered concomitantly with verapamil. A variable effect has been seen with combined use of atenolol. Chronic verapamil treatment can increase serum digoxin levels by 50% to 75% during the first week of therapy, which can result in digitalis toxicity. In patients with hepatic cirrhosis, verapamil may reduce total body clearance and extrarenal clearance of digoxin. The digoxin dose should be reduced when verapamil is given, and the patient carefully monitored. Verapamil will usually have an additive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after verapamil administration. Concomitant use of flecainide and verapamil may have additive effects on myocardial contractility, AV conduction, and repolarization. Combined verapamil and quinidine therapy in patients with hypertrophic cardiomyopathy should be avoided, since significant hypotension may result. Concomitant use of lithium and verapamil may result in a lowering of serum lithium levels or increased sensitivity to lithium. Patients receiving both drugs must be monitored carefully. Verapamil may increase carbamazepine concentrations during combined use. Rifampin may reduce verapamil bioavailability. Phenobarbital may increase verapamil clearance. Verapamil may increase serum levels of cyclosporin. Verapamil may inhibit the clearance and increase the plasma levels of theophylline. Concomitant use of inhalation anesthetics and calcium antagonists needs careful titration to avoid excessive cardiovascular depression. Verapamil may potentiate the activity of neuromuscular blocking agents (curare-like and depolarizing); dosage reduction may be required. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. Pregnancy Category C. There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. Verapamil is excreted in breast milk; therefore, nursing should be discontinued during verapamil use.

**Adverse Reactions:** Constipation (7.3%), dizziness (3.3%), nausea (2.7%), hypotension (2.5%), headache (2.2%), edema (1.9%), CHF, pulmonary edema (1.8%), fatigue (1.7%), dyspnea (1.4%), bradycardia: HR < 50/min (1.4%), AV block: total 1°, 2°, 3° (1.2%), 2° and 3° (0.8%), rash (1.2%), flushing (0.6%), elevated liver enzymes, reversible non-obstructive paralytic ileus. The following reactions, reported in 1.0% or less of patients, occurred under conditions where a causal relationship is uncertain: angina pectoris, atrioventricular dissociation, chest pain, claudication, myocardial infarction, palpitations, purpura (vasculitis), syncope, diarrhea, dry mouth, gastrointestinal distress, gingival hyperplasia, ecchymosis or bruising, cerebrovascular accident, confusion, equilibrium disorders, insomnia, muscle cramps, paresthesia, psychotic symptoms, shakiness, somnolence, arthralgia and rash, exanthema, hair loss, hyperkeratosis, macules, sweating, urticaria, Stevens-Johnson syndrome, erythema multiforme, blurred vision, gynecomastia, galactorrhea/hyperprolactinemia, increased urination, spotty menstruation, impotence.

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# LASKA MEDICINE

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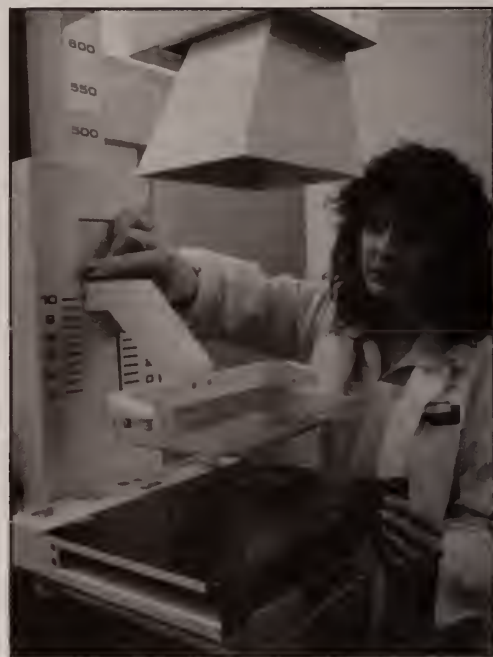
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January 9, 1992

Dear Fellow Alaskan,

Alaska plays a central role in addressing the health and welfare of northern peoples. Our leadership position was recently confirmed during the Northern Forum, when our circumpolar community recognized Alaska as the coordinator for the development of solutions to circumpolar health and environmental problems.

This issue of Alaska Medicine also demonstrates our leadership role in circumpolar health. It contains reports of the activities of Alaskans and their counterparts in the Soviet Far East which address health and human service issues. These reports show a continued strengthening of the relationships between the people of Alaska and our Siberian neighbors, as well as a growing understanding of our common health problems.

The Institute for Circumpolar Health Studies at the University of Alaska Anchorage is to be commended for its leadership in coordinating the continuation of medical exchanges. We wish them and the Alaskan medical community well in their future efforts.

Sincerely,

A handwritten signature in black ink, appearing to read "Walter J. Hickel".

Walter J. Hickel  
Governor

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January 1992

Dear Fellow Alaskans,

The Institute for Circumpolar Health Studies and the Alaska Department of Health and Social Services are working together on solutions to the health problems of northern people. Alaskans are already reaping the benefits of the applied research that results from such exchanges. Alaska Medicine annually publishes the experiences and findings of Alaskan and Russian health professionals.

In this issue of Alaska Medicine, our common interests, first reported in the January 1991 issue of this Journal, have become more focused. For example, a study of the factors which contribute to the high incidence of suicide among Alaskans and Siberians will help us develop programs to prevent this tragic cause of death. Dental epidemiological work has led to a collaborative study with the World Health Organization and an announcement of the national publication of their recommendations appears in this issue. Our understanding of pharmacy services in the Soviet Far East is also growing.

The common health problems of circumpolar regions must include more than exchanges with the Far East. Therefore, much of this work is also being coordinated with our Canadian neighbors. Clinical exchanges between Alaskan and Soviet health professionals working in the area of Fetal Alcohol Syndrome (FAS) will become a part of our collaborative agreement with health officials of the Canadian government. Similarly, plans for coordinated search and rescue capabilities on both sides of the Bering Sea will soon become part of our common agenda with Canada.

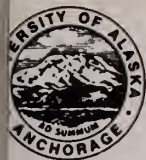
We will continue to work closely with our circumpolar neighbors in developing solutions to Alaska's health care problems. I join with our Governor, the Honorable Walter J. Hickel, in wishing the Institute a productive year.

Sincerely,



Theodore A. Mala, MD, MPH  
Commissioner





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December 30, 1991

Dear Fellow Alaskans:

I am pleased to bring the reports of the 1991 Alaska-Magadan medical exchange to your attention. These reports are the products of the vigorous and dedicated efforts of health and medical professionals from both sides of the Bering Sea working under the flag of the University of Alaska Anchorage's Institute for Circumpolar Health Studies (ICHS).

Improved health care for northern peoples is an important goal of education, research and service in UAA. We are proud of the contributions of the ICHS in pursuing this goal. The reports which follow contain the experiences and observations of Alaskan and Soviet professionals who are striving to improve health care through increased communication. I trust that these reports will be of interest to all Alaskans, and of value to many health and medical practitioners.

On behalf of the University of Alaska Anchorage, I thank the Magadan Ministry of Health for their continued participation in these exchanges; and all of the supporters of our Institute for Circumpolar Health Studies whose contributions have made this work possible. We look forward to future exchanges toward the end of improved health care for future generations of peoples of Alaska and the Soviet Far East.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Behrend".

Donald F. Behrend  
Chancellor

DFB:les

Enclosure

# FOREWARD

The Institute for Circumpolar Health Studies (ICHS), University of Alaska Anchorage, serves as a world headquarters for circumpolar health issues, providing information, coordination, research, training, and professional development for the international medical and health sciences community. Established in 1988 by the Alaska State Legislature, ICHS has endeavored to bring together the communities of the northern world in our common goal of health for all northern people.

Toward this end, ICHS sponsored the third annual Alaska/Magadan Medical Expedition and Exchange. Twenty Alaska health professionals traveled to the Russian Far East during July 3–16, 1991 to work with their counterparts. Twenty-two Russian health professionals visited Alaska, August 3–12, 1991, working in both rural and urban health care systems. This report contains select experiences, findings and recommendations of these dedicated Alaskan and Russian health professionals. It charts the evolution and growth of the program from baseline data collection to formal research. Reports by the epidemiological group, dental group, rural health group, mental health group, Emergency Medical Services (EMS) group, ophthalmology group, reports on pharmacy and ob-gyn, and the Russian delegation reports are included.

As with most cross-cultural programs, there are some inherent difficulties. Foremost is the general language barrier, compounded by the difficulty with translation of technical medical terminology. Basic health care structure, systems and equipment are unique to each culture. In addition, the political upheaval now transpiring in Russia has created many unresolved questions, not the least of which is the proper term and usage of the words "Russia" versus "Soviet". Notwithstanding these difficulties and

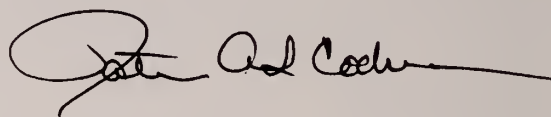
possible inconsistencies, we are proud to present the 1991 Report of the Alaska/Magadan Medical Expedition and Exchange.

We wish to acknowledge the contributions of Nancy Mala, Mary Anna Hunstiger, Brian Helmuth, Tatiana Khokhorina and Amy Ostlund to the success of this program and to ICHS.

Our deepest appreciation goes to Senator Jay Kerttula, Dr. Ted Mala, Dean Lee Gorsuch, Dr. Sergei Lisenko, Magadan Minister of Health, Dr. Alla Nikitina, Deputy Minister of Health and their staff, our many volunteers and host families, and especially to the health professionals of Alaska and Russia who gave their time, energy and expertise to this program.

We pay tribute to the dedication and vision of all who participate in this quest for health and harmony for all people of the North.

Good wishes and good health from the staff of ICHS.



Patricia Longley Cochran  
Administrator  
Institute for Circumpolar Health Studies

\*Look for our upcoming announcement of the summer 1992 Alaska/Russia Medical Expedition and Exchange to Magadan and Khabarovsk!

*Editors:*

Nancy Edtl Mala, BSN, ICHS Coordinator  
Patricia Longley Cochran, ICHS Administrator  
Brian Saylor, PhD., Deputy Commissioner, State of Alaska  
Department of Health and Social Services

*Layout Editor:*

Brian Helmuth, ICHS Computer Specialist





Alaska and the Magadan-Chukotka Region



Cities visited by the 1991 Alaska-Magadan Medical Expedition and Exchange

## 1991 Alaska/Magadan Medical Expedition and Exchange members (Alaskan Delegation)

Member	Position	Group
Beller, Michael, MD, MPH	Medical Epidemiologist, State of Alaska	Epidemiology
Cochran, Patricia Longley	Administrator, ICHS	Administrative
Deaux, Edward B., PhD	Psychologist, Dir. Plans/Program Development, SCF	Mental Health
Fuller, Julie, RPH	Consulting Pharmacist	Rural Health
Grosdidier, Katherine	Acting Director, South Central Foundation (SCF)	Rural Health
Helmuth, Brian	Computer Specialist, ICHS	Administrative
Hillstrand, Mo, RN	Flight Nurse, LifeGuard Alaska Medevac	EMS
Hiltunen, Jon	Manager, Media Relations, Dictaphone, Connecticut	Administrative
Hupp, LeMay Kay, RN	School Nurse, Anchorage School District	Rural Health
Johnson, Mark S., MPA	Chief, EMS, State of Alaska, Juneau	EMS
Lichtenstein, Gary W., LCSW	Alaska Psychosocial Services	Mental Health
Lowe, Margaret R., M.Ed Ed.S	Director, Division of MHDD, DHSS, Juneau	Mental Health
Menard, Curt D., DDS	State Senator, Dentist, Wasilla	Administrative
Nakamura, Peter M., MD, MPH	Director, Division of Public Health, DHSS, Juneau	Epidemiology
O'Connor, Steve, MICP	Director Paramedics, Kenai Peninsula Borough	EMS
Reoux, Joseph P., MD	Psychiatrist, PHS, Indian Health Services, Sitka	Mental Health
Richards, William W., MD	Chief of Alcohol/Mental Health, AANHS	Mental Health
Runge, Paul E., MD	Retinal Surgeon, Center of Retinal Vitreous Surgery, Tennessee	Ophthalmology
Shoemaker, Mari, RN	Staff Nurse, OR, Providence Hospital	EMS
Thomsen, Russel J., MD	OB-Gyn, International Family Planning, Ft. Wainwright	Rural Health
Wennen, William W., MD, FACS	Plastic and Reconstructive Surgeon, Fairbanks	EMS

## 1991 Alaska/Magadan Medical Expedition and Exchange members (Soviet Delegation)

Member	Position
Boytssov, Vasily Dmitrievich, MD	Surgeon, Echinococcosis Specialist
Goryachkin, Vyacheslav Georgievich, MD	Nontraditional Medicine
Guriev, Valeri Nikolaevich, MD	Social Hygienist
Karpov, Pavel Nicodimevich, MD	Epidemiologist
Kleymentov, Sergei Victorovich, MD	Traumatologist
Kostyukovich, Sergei Alexeevich, MD	Anesthesiologist, Critical Care
Kuznetsov, Evgeny Yurivich, MD	Family Planning
Lebedev, Gennadi Georgievich, MD	Epidemiologist
Lisenko, Vladimir Pavlovich, MD	Narcologist
Lobosok, Ludmilla Nikolaevna, MD	Deputy Chief Doctor, Outpatient/Polyclinic Care
Naroditski, Vladimir Iosiphovich, MD	Pediatrician
Nikitina, Alla Nikolaevna, MD	Deputy Minister of Health, Social Hygienist
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# Public Health in the Magadan Region of the Soviet Far East

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## ABSTRACT

The impressions formulated from a brief encounter and review of selected health care data from the Magadan Region of the Soviet Far East provides a partial picture of the public health practice along with suggestions for continued collaborative efforts. The health care system appears to be based primarily on a clinical medical model. Tracking of reportable infectious diseases and immunization efforts provides a wide array of information for further analysis. A major activity for future collaboration would be in closing the gap between public health knowledge and practice. The health care staff and health care system appears open to critique and discussion.

## INTRODUCTION

The Magadan region of the Soviet Far East is represented by an area approximately twice the size of the state of Alaska. It extends north to the Arctic Ocean, south to the Sea of Okhotsk, east to the Bering Sea and west to the Yakutskaya Autonomous Republic. Much of the area has a relatively short history dating back to the late 1930's during the establishment of the many gulags (prisons). Magadan, the major city in this region, was founded in 1937. The population for the region is 560,000 with 160,000 located in the city of Magadan.

The staff of the Magadan Health Department was extremely accommodating and open with their information and very receptive to presentations on the procedures and ways of the West. All individuals whom we encountered insisted that the members of the medical exchange group be entertained according to custom to the extent that it was sometimes difficult to pursue a strict medical information exchange. The acquisition of information was further complicated by the absence of a centralized data system and a medical system based on a number of diversely focused institutions.

The organization of the medical system was described in two charts in the Jan/Mar 1991 issue of *Alaska Medicine* and is portrayed in another version in this article (Figure 1). The data and information may have suffered in the

translation from Russian to English and the validity has not been verified.

## DISEASE REPORTING

There are sixteen health districts in the Magadan Region. Twelve districts plus the city of Magadan report on a daily basis and this information is entered into a computer-based program at the central epidemiology office in Magadan. The absence of data from the other three districts representing one third of the region was not explained. Reports are generated each month on a cumulative scale.

Of special note is the absence of any reported cases of AIDS. HIV infection is not a reportable condition but is said to also be absent in the Magadan region. HIV testing labs are located in the cities of Magadan and Anadyr but expansion to 16 centers is planned. Approximately 100,000 tests are conducted each year. The HIV testing practice is based on the following policy:

- 1) All blood donors
- 2) Two to three tests during each pregnancy
- 3) All hospital admissions
- 4) Risk groups represented by homosexuals, prostitutes, I.V. and drug users
- 5) Suspected contacts of HIV positive individuals
- 6) Anonymous testing is offered

Tuberculosis is still a major infectious disease in the Eastern Soviet Union (Table 1). All children are vaccinated with *Bacillus Calmette-Guérin* (BCG) at the age of 5 to 7 months with revaccinations at the ages of 6, 12, and 17 years. Skin testing is still performed annually up to age 14. A skin test is considered positive if there is a 12-15 mm reaction with elevation and satellites. The district TB hospital in Magadan has a bed capacity of 160 and an additional hospital with 360 beds is located 150 kilometers from this major city. All active cases are admitted to the hospital. The patient is treated as an inpatient until the sputum tests are negative, with an average length of stay of 73.2 days. Treatment is administered for a total of twelve months. Standard treatment consists of PAS, ethambutol, INH, and streptomycin. Patients are re-examined every six months for two years after completion

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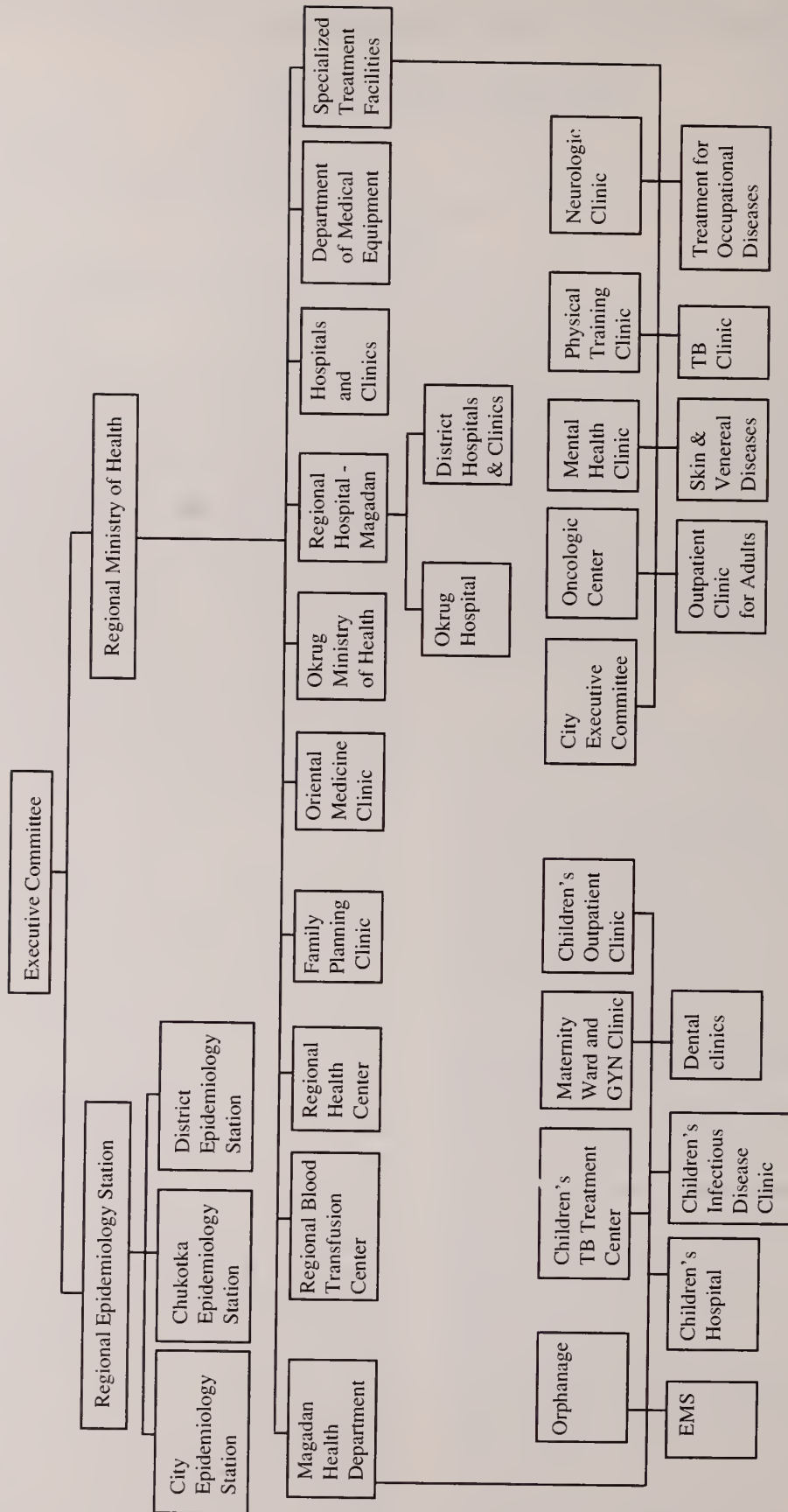


FIGURE 1: MAGADAN REGION HEALTH ORGANIZATION CHART



Table 1. TB in the Magadan region

<u>Condition</u>	<u>Number of cases</u>									
	<u>Total</u>		<u>0-2 years</u>		<u>3-6 years</u>		<u>7-14 years</u>		<u>Adult</u>	
	<u>No.</u>	<u>Rate</u>	<u>No.</u>	<u>Rate</u>	<u>No.</u>	<u>Rate</u>	<u>No.</u>	<u>Rate</u>	<u>No.</u>	<u>Rate</u>
TB generalized	102	19.2	2	0.1	0	0	1	0	99	0.3
TB + culture	66	12.4	0	0	0	0	1	0	65	0.2
TB in occupations with frequent public exposure	9	1.7	0	0	0	0	0	0	9	1.7
Pulmonary TB	68	12.8	0	0	0	0	1	0	67	0.2
Converters	140	27								
	Rate is per 100,000					Population is 560,000				

of treatment. Thirteen percent of cases are resistant to this regime.

The list of notifiable conditions varies significantly between the requirements in Magadan as compared to conditions listed by our Centers for Disease Control (CDC). Table 2 has a listing of the common reporting requirements for the Magadan region and the USA as well as the additional conditions required by the Magadan health reporting system. Table 3 lists the additional requirements for CDC reporting.

The Reportable conditions are available by age, rural site, home, and kindergarten from the Institute for Circumpolar Health Studies, University of Alaska, Anchorage, Alaska.

### CHILDREN'S HEALTH SERVICES

Children's medical care in the Soviet system is based on an institutional care model. Children with trauma and surgical conditions are admitted to the regional hospital, children with TB are admitted to one of the two district TB hospitals. Children with nonserious infections and general pediatric illness are admitted to the children's hospital, and children with "serious infectious conditions" are admitted to the children's infectious disease hospital (Tables 4 and 5).

Immunizations are actively pursued as part of the health services for children. The initial series is started at age one month. Two-dose measles is administered at age one year with revaccination at age seven years. Rubella, hepatitis B, and hemophilus vaccines are not available for routine childhood immunizations. Standard reporting of immunizations have been available in computer printouts since 1989 (Table 7).

### BIRTH DATA

There were approximately 9,000 births in the Magadan region in 1988 for a birth rate of 1.6. The number of births

for the region in 1990 was approximately 8,000 for a birth rate of 1.4. The city of Magadan had 2,404 births in 1990 for a birth rate of 1.4. These relatively low birth rates were achieved in the absence of sufficient family planning supplies. Condoms and other pregnancy prevention devices and medications are not readily available. A high rate of abortions was reported in the *Alaska Medicine*, Jan/Mar 1991.

### INFANT MORTALITY

The neonatal death rate of 7.4 and infant mortality rate of 12.5 were reported on 2,494 hospital births in Magadan city. These figures are less than 50% of the numbers quoted for the total of the Soviet Union. The leading cause of infant death in the Magadan region is birth defects. We were informed that there were six SIDS deaths in Magadan in 1991 but the method of diagnosis was not pursued.

### NEOPLASMS

Very little information was available on cancers. The chief of the children's hospital stated that they experience 6 to 8 acute lymphocytic leukemia cases per year. No childhood oncologist is available in the Magadan Region. Most children with leukemia die within three years. The longest survival has been eleven years.

Pap smears are initiated at age 14 and performed annually after age 18. Pap smears are conducted in conjunction with routine breast exams and hematology testing. Table 6 presents the findings over a one year period at the Magadan Maternity ward.

### OCCUPATIONAL DISEASES

The strong emphasis on the identification, documentation, and intervention on problems related to occupational health (Table 8) reflects the unionized nature

Table 2. Reportable Diseases in the Magadan Region

Disease	1990	1989	1990 # per 100,000	1989 # per 100,000	Change	Avg/year for 5 years	5 year rate per 100,000	1990 U.S.#	U.S. per 100,000	1990 AK#	AK per 100,000
Typhoid	3	0	0.6	0	3	1	0.2	552	0.22	0	0
Salmonella	253	93	47.5	17	2.7	135	24.8	48603	19.54	107	19.45
Shigellosis	983	1375	184.6	250.7	-1.4	1330	244.7	27077	10.89	11	2
Dysentery	829	1132	155.7	206.4	-1.4	1110	204.2				
Flexnerii	261	420	49	76.6	-1.6	345	63.5				
Dysentery	544	711	102.2	129.6	-1.3	754	138.7				
Carriers(not ill)	245	477	46	87	-1.9	457	84.1				
Tuberculosis	587	591	110.2	107.7	0	705	129.7				
Pseudo Tuberculosis	284	468	85.3	-1.6	542	99.7	99.7				
Pathogenic E-Coli	627	901	117.7	164.3	-1.4	817	150.3				
Roto Virus	35	0	6.6	0	35	12	2.2				
Gastroenteritis	1539	2193	289.01	399.8	-1.4	2088	384.1				
Brucellosis	3	1	0.6	0.2	0	2	0.4	85	0.03	0	0
Diphtheria Carrier	5	1	0.9	0.2	0	2	0.4	4	0	0	0
Pertussis	67	167	12.6	30.4	-2.5	161	29.6	4570	1.84	18	3.27
Parapertussis	4	0	0.8	0	4	1	0.2				
Scarlet Fever	523	846	98.2	154.2	-1.6	706	129.9				
Meningococcal											
Meningitis	22	35	4.1	6.4	0	33	6.1	2451	0.99	12	2.18
Meningococemia	14	21	2.6	3.8	0	15	2.8			0	0
Polio	2	0	0.4	0	0	1	0.2	7	0	78	18
Measles	18	139	3.4	25.3	-7.7	92	16.9	27786	11.17	0	0
Rubella	4639	4596	871.2	837.9	0	5372	988.2	1125	0.45		
Hemorrhagic Fever	710	355	133.3	64.7	2	647	119				
Hepatitis (TTL)	1	0	0.2	0	0	0	0				
Hepatitis B	831	813	156.1	148.2	0	831	152.9	21012	8.48	0	10.551
Hepatitis A	167	185	31.4	33.7	0	201	37	31441	12.64	190	35.55
Mononucleosis	661	618	124.1	112.7	0	626	115.2				
Parotitis	13	0	2.4	0	13	4	0.7	5292	2.13	6	1.09
Respiratory											
including Flu	101	109	19	19.9	0	157	28.9				
Flu	212480	228672	39902.3	4160.4	-1.1	239231	44008.6				
Fish Parasite	33055	15261	6207.5	2782.3	2.2	29681	5460.1				
TB Generalized	4	0	0.8	0	4	1	0.2	25701	10.33	68	12.36
Bacillus +	102	2	19.2	0.4	51	35	6.4				
TB (freq contact)	66	0	12.4	0	66	22	4				
TB-Bacillus+	9	0	1.7	0	9	3	0.6				
TB Lungs	5	0	0.9	0	5	2	0.4				
Syphilis	68	0	12.8	0	68	23	4.2	50223	20.9	26	4.73
Gonorrhea	9	0	1.7	0	9	3	0.6	690169	277.51	1066	193.8
Mites	1211	0	227.4	0	1211	404	74.3				
Head Lice	84	8	15.8	1.5	10.5	31	5.7				
Ascaris	1447	1026	271.7	187.1	1.4	1018	187.3				
Trichocephaliasis	439	0	82.4	0	439	146	26.9				
Enterobiasis	56	0	10.5	0	56	19	3.5				
Hymenolepis	4642	0	871.7	0	4642	1547	284.6				
Trematode	14	0	2.6	0	14	5	0.9				
Latum											
Diphyllobothrium	1	0	0.2	0	0	0	0				
AIDS								41595	16.72	25	4.55

Population totals: Magadan 560,000 U.S.: 248,709,873 Alaska: 550,043



**Table 3. Notifiable Diseases United States 1990 not reported in Magadan**

Disease	Total	under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 39	40 to 49	50 to 59	60+	Age not noted
AIDS	41,595	286	290	106	50	148	1567	6385	18918	9697	2915	1233	-
Amebiasis	3,328	14	104	132	70	75	106	190	364	209	104	111	1849
Aseptic Meningitis	11,852	2437	913	1149	916	780	1029	1364	1791	498	194	309	472
Botulism	92	61	2	-	-	1	1	1	7	5	2	7	5
Cholera	6	-	1	-	-	-	-	-	1	1	1	2	-
Encephalitis	1,341	71	92	164	121	62	86	92	188	102	82	265	16
Encephalitis(post)	105	7	11	17	7	4	1	9	15	9	6	18	1
Hepatitis Non A & B	2,553	13	17	32	39	112	254	350	786	338	179	410	23
Hepatitis(unspeified)	1,671	9	57	188	96	139	174	219	397	168	55	136	33
Legionellosis	1,370	7	3	4	7	10	14	50	165	209	207	667	27
Leprosy	198	-	-	-	6	7	16	17	32	28	30	40	22
Leptospirosis	77	1	1	3	7	8	8	9	16	14	4	6	-
Malaria	1,292	14	53	72	81	91	178	183	261	160	70	77	52
Plague	2	-	-	-	-	1	-	-	-	1	-	-	-
Psittacosis	113	1	3	-	1	3	5	11	27	26	17	14	5
Rabies, Human	1	-	-	-	-	-	1	-	-	-	-	-	-
Rheumatic Fever	108	-	3	22	23	5	1	8	7	-	1	6	32
Tetanus	65	-	1	1	1	1	2	2	9	7	7	32	1
Toxic-shock Syndrome	322	3	6	4	27	72	40	41	88	26	3	10	2
Trichinosis	129	-	-	1	7	11	11	8	33	26	15	13	4
Tularemia	152	2	6	15	8	4	3	27	23	18	34	4	152
Typhus Fever	50	-	2	5	2	4	2	5	^9	7	6	8	-
Varicella	173,099	768	10106	36886	7509	1536	620	389	321	90	43	67	114764

**Table 4. Magadan Children's Infectious Disease Hospital 1989-1990**

Disease	1990 number	% of all children	1989 number	% of all children
Salmonella	20	0.7	4	0.1
Shigellosis	116	3.9	143	4.8
Food poisoning	125	4.2	188	6.3
E-Coli	37	1.3	42	1.4
Staphylococcus enterocolitis	38	1.3	56	1.8
Gastroenteritis	51	1.7	93	3.1
Gastro enterocolitis	381	12.9	494	16.5
Yersiniosis	18	0.6	34	1.1
Pertussis	37	1.3	43	1.4
Meningococemia	14	0.5	20	0.7
Meningitis	5	0.2	29	0.9
Enteroviral diseases of Central Neuro System	13	0.4	29	0.9
Viral Hepatitis	138	4.7	104	3.5
Diseases caused by virus	9	0.3	22	0.7
Acute respiratory viral infections	1000	34	1145	38.3
Flu	198	6.7	66	2.2
Pneumonia	33	1.1	47	1.6
Other diseases of liver, gallbladder,bile	35	1.2	42	1.4
Other diseases	612	21.0	372	12.6

Table 5. Magadan Children's Hospital Admissions; number of patients for 1989 & 1990

<u>DISEASES</u>	<u># PATIENTS</u>	
	<u>1989</u>	<u>1990</u>
Infectional or parasitic diseases (General Infectional)	280	205
- helminthic	270	198
Tumors, including cancer	16	10
- blood and lymphatic system	1	0
Diseases of endocrine system	48	29
- diabetes	12	17
Blood diseases and hematologic organs	46	25
Psychiatric disorders	98	104
- neurosis	5	2
- enuresis	38	49
Neurosystem diseases and sense organs	140	207
- vegetative-vascular dystonia (low blood pressure)	38	61
- pediatric paralysis	5	2
- disease of peripheral neurosystem	37	27
Cardiac, including acute rheumatic fever	23	27
Respiratory system diseases	293	240
- acute respiratory viral infection	44	43
- acute bronchitis	51	45
- chronic tonsillitis	13	9
- obstructive bronchitis	40	25
- bronchial asthma	32	38
- asthmatic bronchitis	46	33
- pneumonia, bronchopneumonia	29	26
- chronic pneumonia	4	2
Digestive system diseases	335	352
- gastroduodenitis	44	56
- dyskinesia of upper digestive tract	198	202
Urinary system diseases	212	236
- nephritis	3	0
- glomerular nephritis	13	13
- kidney infections	95	91
Skin conditions	212	230
- food allergies	34	60
Musculoskeletal system disease	15	25
- rheumatoid arthritis	6	8
Congenital defects	75	58
Perinatal conditions	274	232
Undiagnosed conditions	11	10
Poisoning	92	90
Other	127	105



Table 6. Magadan Maternity Ward 1990

<u>Procedure</u>	<u>Number of cases</u>
Colposcopy	1059
Smear for atypical cells	16440
Cancer of cervix	7
O stage	4
I stage	0
II stage	0
III stage	3
VI stage	0

Dysplasias immediately were directed to Magadan  
Oncologic Clinic.  
Treatment is given at outpatient clinics

of industries in the Soviet Union. A hospital for the treatment of "occupational" diseases has been established in Magadan. Occupational diseases are reported by sex, occupation, type of industry, length of exposure, geographic region, nature of the hazard, diagnosis of the problem, and chronicity of the illness. The most common diagnoses involve damage to soft tissue and to the auditory, pulmonary, and nervous systems. Frequently implicated is nerve damage related to the operation of vibrating equipment. The absence of diagnoses identifying major traumatic injuries and deaths from serious acute occupational injuries would lead to the conclusion that a separate reporting mechanism must be in existence. In Alaska, unintentional injuries are the second leading cause of death. Alaska and the Magadan region have common fishing, mining, petroleum, and transportation industries. Heavy consumption of alcohol is also a mutually shared experience.

#### **DISEASE PREVENTION AND HEALTH PROMOTION**

The health care system is developed around the medical care model of the physician as the principle provider of service and health information. The walls of the hospitals and polyclinics are covered with wonderfully hand painted posters with messages on AIDS, nutrition, healthful exercise, safe sex, and the evils of alcohol, drugs, and smoking. These very professional and descriptive posters were created by the nursing staff under the "tutelage of the doctors". The statistics on AIDS and HIV infections, contrary to the figures for other sexually transmitted diseases, could be cited to support the efficacy of the education program. Unfortunately, a casual observer would conclude that there is a significant gap between

knowledge and behavior. Although the present adverse economic conditions are not conducive to good nutrition practices, these conditions should not be credited for the heavy consumption of alcohol and excessive use of tobacco products by the general populace and medical practitioners. The principle of health professionals leading by example appears to have been supplanted by "do as I say and not as I do".

Children appear to have retained a position of value and attention within the average nuclear family structure. Overt displays of love and affection provide a supportive base for positive imaging and self worth in the home as do the well supervised children's summer camps.

Because of the institutional and medical model for their health care system, one might conclude that responsibility for health care is vested in the provider system and not in the family or community. This conclusion would be premature without the opportunity to study the system in greater depth.

#### **SUMMARY**

The brief exposure to the people and health care system established for the citizens of the Magadan Region of the Soviet Far East has provided a partial view of the public health structure and program. The data and impressions have not been substantiated but do lead to a number of presumptive conclusions. The shortage of technological, material, and often political support for the health care system has been balanced by the dedication and commitment of a cadre of motivated and concerned health professionals. The staff and leadership of the health care system appear receptive to ideas and support from the western health care models. Future mutual ventures should include collaborative efforts in the following areas:

- 1) Health surveillance and information systems.
- 2) The science and technology of public health practice.
- 3) Toxic and hazardous waste risk assessment, prevention, and response.
- 4) Reinforcement of the priority and relative value of the health care profession in the present reorganization process.
- 5) Scientific process as a guide to medical and health practice.
- 6) Mental health epidemiology and practice.
- 7) Substance abuse epidemiology and intervention.

TABLE 7: Vaccination Status in the Magadan Region 1990

DIPHTHERIA

<u>age</u>	<u>Received vaccination</u>	<u>Completed</u>	<u>Not completed</u>		<u>Not completed by medical order</u>		<u>Completion scheduled</u>	
	<u>%</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
under 1 yr	31.2	0	4820	68.8	176	3.7	4644	96.3
1 year	75.8	1.9	1995	24.2	201	10.1	1794	89.9
2 years	91.2	45.4	815	8.8	168	20.6	647	79.4
3 years	96.1	79.4	389	3.9	132	33.9	257	66.1
4 years	97.2	89.5	286	2.8	121	42.3	165	57.7
5 years	98.2	94.3	182	1.8	94	51.6	88	48.4
6 years	98.8	95.8	118	1.2	78	66.1	40	33.9
7 years	98.2	97.0	190	1.8	116	61.1	74	33.9
8 years	98.9	98.1	105	1.1	79	75.2	26	24.8
9 years	98.5	97.9	152	1.5	96	63.2	56	36.8
10 years	98.8	98.2	122	1.2	81	66.4	41	33.6
11 years	93.3	92.9	651	6.7	61	9.4	590	90.6
12 to 14 yr	98.9	98.5	306	1.1	134	43.8	172	56.2
7 to 14 yr	98.1	97.5	1526	1.9	567	37.2	959	62.8
0 to 14 yr	92.9	81.6	10131	7.1	1537	15.2	8594	84.8

POLIO

<u>age</u>	<u>Received vaccination</u>	<u>Completed</u>	<u>Not completed</u>		<u>Not completed by medical order</u>		<u>Completion scheduled</u>	
	<u>%</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
under 1 yr	30.4	0.0	4875	69.6	152	3.1	4723	96.9
1 year	75.2	19.4	2041	24.8	166	8.1	1875	91.9
2 years	90.0	64.9	925	10.0	142	15.4	783	84.6
3 years	95.4	84.5	456	4.7	128	28.1	328	71.9
4 years	97.0	91.6	306	3.0	98	32.0	208	68.0
5 years	98.0	93.4	198	2.0	77	38.9	121	61.1
6 years	98.3	94.2	163	1.7	59	36.2	104	63.8
7 years	98.4	97.2	168	1.6	93	55.4	75	44.6
8 years	99.0	98.4	102	1.0	62	60.8	40	39.2
9 years	98.8	98.6	116	1.2	62	53.4	54	46.6
10 years	98.7	98.3	126	1.3	57	45.2	69	54.8
11 years	98.9	98.6	109	1.1	41	37.6	68	62.4
12 to 14 yr	98.9	98.5	313	1.1	102	32.6	211	67.4
7 to 14 yr	98.8	98.3	934	1.2	417	44.6	517	55.4
0 to 14 yr	93.1	84.7	9898	6.9	1239	12.5	8659	87.5



MEASLES

<u>age</u>	<u>Received</u>	<u>Completed</u>	<u>Not</u>		<u>Not completed</u>		<u>Completion</u>	
	<u>vaccination</u>		<u>completed</u>		<u>by medical order</u>		<u>scheduled</u>	
	<u>%</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
under 1 yr	0.0	0.0	7002	100.0	0	0.0	7002	100.0
1 year	57.9	58.0	3458	42.0	180	5.2	3278	94.8
2 years	86.2	86.5	1253	13.5	152	12.1	1101	87.9
3 years	92.6	93.0	703	7.0	135	19.2	568	80.8
4 years	95.4	95.9	414	4.1	115	27.8	299	72.2
5 years	95.9	96.9	312	3.1	86	27.6	226	72.4
6 years	95.3	96.8	314	3.2	73	23.2	241	76.8
7 years	95.9	97.9	225	2.1	111	49.3	114	50.7
8 years	94.0	96.4	359	3.6	74	20.6	285	79.4
9 years	95.5	98.8	120	1.2	73	60.8	47	39.2
10 years	95.2	98.6	138	1.4	70	50.7	68	49.3
11 years	94.4	98.5	142	1.5	54	38.0	88	62.0
12 to 14 yr	92.4	96.2	1062	3.8	95	8.9	967	91.1
7 to 14 yr	94.1	97.4	2046	2.6	477	23.3	1569	76.7
0 to 14 yr	87.1	89.1	15502	10.9	1218	7.9	14284	92.1

MUMPS

<u>age</u>	<u>Received</u>	<u>Completed</u>	<u>Not</u>		<u>Not completed</u>		<u>Completion</u>	
	<u>vaccination</u>		<u>completed</u>		<u>by medical order</u>		<u>scheduled</u>	
	<u>%</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
under 1 yr	0.0	0.0	7003	100.0	0	0.0	7003	100.0
1 year	32.5	32.6	558	67.4	156	2.8	5402	97.2
2 years	71.1	71.2	2675	28.8	136	5.1	2539	94.9
3 years	84.3	84.8	1520	15.2	140	9.2	1380	90.8
4 years	91.2	81.5	850	8.5	115	13.5	735	86.5
5 years	84.6	84.9	1497	15.1	93	6.2	1404	93.8
6 years	94.8	96.2	367	3.8	83	22.6	284	77.4
7 years	82.1	83.6	1753	16.4	88	5.0	1665	95.0
8 years	77.0	79.0	2090	21.0	61	2.9	2029	97.1
9 years	73.6	76.4	2343	23.6	58	2.5	2285	97.5
10 years	72.9	77.6	2251	22.4	53	2.4	2198	97.6
11 years	65.2	71.9	2720	28.1	55	2.0	2665	98.0
12 to 14 yr	48.6	55.5	12592	44.5	61	0.5	12531	99.5
7 to 14 yr	65.0	69.8	23749	30.2	376	1.6	23373	98.4
0 to 14 yr	66.9	69.7	43219	30.3	1099	2.5	42120	97.5

**TABLE 8. OCCUPATIONAL DISEASES FOR 1990, MAGADAN REGION**

Listing by Communities or Districts

Occupational Diseases and Poisonings	NUMBER OF VICTIMS			
	Total	Temporarily Disabled	Invalids	With 2nd Diagnosis
<b>Anadyr</b>				
Bronchitic Asthma	1	1	-	1
Brucellosis	1	-	-	-
<b>Beringovskaya</b>				
Antrasilicosis	1	-	-	-
<b>Bilibino</b>				
Angiospasm of Peripheral Vessels	1	-	-	-
Arthritis	1	-	-	1
Vibratory disease	11	1	-	5
Dust bronchitis	1	1	-	1
Varicosis	1	1	-	1
Cochlear neuritis	2	-	-	-
Other	4	1	-	2
Sacral Radiculitis	1	1	-	1
<b>Iultinski</b>				
Vibratory disease	11	2	-	3
Myofascitis	1	-	-	-
Osteoarthritis	1	-	-	-
Others	2	-	-	-
Sacral Radiculitis	2	2	-	-
Silicosis	2	-	-	1
Silicotuberculosis	1	1	-	-
Epicondylitis	1	-	-	1
<b>Magadan</b>				
Pneumoconiosis	1	-	-	-
<b>Omsukchan</b>				
Arthritis	1	-	-	1
Vibratory disease	5	-	-	1
Dust bronchitis	1	-	-	-
Cochlear neuritis	1	-	-	1
Silicosiderosis	1	-	-	-
<b>Susuman</b>				
Arthritis	1	-	-	-
Vibratory disease	1	1	-	1
Dust bronchitis	5	-	-	1
Cochlear neuritis	2	1	-	-
Others	3	1	-	1



<b>Tenkinskaya</b>				
Vibratory disease	14	-	-	7
Neuropatia	1	-	-	-
Osteoarthritis	1	-	-	-
Arthritis	1	-	-	-
Pneumoconiosis	1	-	-	1
Polyneuritis vegetative-sensitive	2	-	-	-
Silicosis	1	-	-	-
Others	1	-	-	-
<b>Khasinsnaya</b>				
Vibratory disease	1	-	-	-
Cochlear neuritis	1	-	-	-
Osteoarthritis	2	-	-	2
<b>Chaunskaya</b>				
Vibratory disease	11	-	-	1
Cochlear neuritis	4	2	-	2
Aseptic necrosis	1	-	-	-
Arthritis	1	-	-	-
Polyneuritis vegetative-sensitive	4	-	-	-
Radiculitis	1	1	-	1
Silicosis	1	-	-	-
Epycondylitis	1	1	-	-
Others	1	-	-	-
<b>Shmidtouskaya</b>				
Antrasilicosis	1	-	-	-
Bronchitic asthma	1	-	-	-
Vibratory disease	1	-	-	-
Dust bronchitis	1	-	-	1
Cochlear neuritis	1	-	-	-
Polyneuritis vegetative-sensitive	2	-	-	-
Silicosis	1	-	-	-
<b>Yagodinski</b>				
Vibratory disease	3	3	-	3
Vegetomyofascitis	1	-	-	1
Cochlear neuritis	1	-	-	-
Acute poisoning by mercury	1	1	-	-
Others	1	1	-	-
<b>Total</b>	<b>136</b>	<b>23</b>	<b>-</b>	<b>42</b>

# Administration of Rural Health Services in the Magadan Region, USSR, Department of Health

Katherine Grosdidier, BA<sup>(1)</sup>  
LeMay Hupp, RN<sup>(2)</sup>

## ABSTRACT

This report explains the administrative and budget procedures of the rural health services in the Yagadnoye District of the Magadan Region. It briefly describes the administrative and budgeting planning relationships between the rural health district, the Magadan health region, and the USSR Department of Health, headquartered in Moscow. In the summary, recommendations for future exchange visits are made such as a program-focused approach.

## INTRODUCTION

The Magadan Region, USSR and the State of Alaska are very similar in size and demographics. Alaska's population of 534,000 people resides within 586,000 square miles and is roughly comparable to the population of 510,000 people distributed over approximately 463,000 square miles in the Magadan Region.

As in Alaska, the Magadan Region has little road access throughout the wide span of land. Villages with clinics, and towns with hospitals are miles apart. Away from the large city of Magadan (population 250,000), air transportation is the main source of health care access. This seaport city, located on the western shore of the Sea of Okhotsk, is situated at 59.34 degrees north latitude, which is approximately the same as Seward, Alaska, located at 60.06 degrees north latitude. Magadan is situated some 500 miles south of the Arctic Circle and about 1,600 miles due east of Seward. Flight time from Anchorage to Magadan is 4.5 hours.

## ADMINISTRATION

Administration of the Magadan Region Health Program begins in the USSR Department of Health, headquartered in Moscow, and regionally directed through

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the Administration of Health Department of the Magadan Region Executive Committee. The Regional Department of Health Hospital is located in Magadan City. The information provided in this report was obtained during a tour of one of the three districts located within the Magadan Region, the Yagodnoye District (population 55,000), in the city of Yagodnoye, and also in one of the smaller cities (Sinegorye, population 11,000- 15,000 estimated) within this district. The information is, therefore, representative of the viewpoints of providers of rural health services and their administrative problems rather than of regional administration from the Magadan Regional and USSR Departments of Health.

## PUBLIC HEALTH ADMINISTRATION IN THE YAGODNOYE DISTRICT

During an informational meeting held at Sinegorye Hospital Clinic, heads of the following departments and services were introduced: therapy, surgery, research, psychology, children's departments, sanitation services, and laboratory services. Several departments gave an overview of their structure and services provided.

## DEPARTMENT OF SANITARY SERVICES

The Sanitation Service has two basic tasks: (1) quality of food, water, and air; and (2) prevention of infectious diseases. To accomplish these two main tasks, the Sanitary Service is divided into subgroups. The first subgroup has control of food, water, and air pollution. One physician and two assistants are associated with this service.

The second subgroup takes care of municipal orders of sickness, such as the garbage industry, quality of food and meals in the canteens, cafes and "the sanitary order", and enforcement of health regulations for factories that produce sausage and milk.

The third subgroup monitors the development of children and teenagers. It investigates how the conditions of air and water affect their health.

The fourth subgroup is labeled "Industrial Hygiene".



Here, efforts are directed toward protection of workers' safety and health. Conditions for workers in the factories are monitored.

The fifth subgroup works in a bacteriological laboratory and disease control unit. They conduct chemical tests of the environment, air, soil, water, pesticides, and chemicals used in growing vegetables.

### **ADMINISTRATION AND BUDGETING PROCESSES IN SINGEGORYE**

In the past, the Yagodnoye District Health Services received their budget and funding from Magadan. The hospital program was also decided in Magadan. This practice is said to have been changed this year but Magadan still fixes the obligatory amounts for wages, medications, and feeding of patients. The remainder of the fund distribution is then decided by the Singegorye Hospital and Clinic staff. These monies (some 18.5 million rubles) are now prioritized in the Yagodnoye as:

- 1) Maternity and Readmission (25-30%)
- 2) Children's Services (10-15%)
- 3) Department of Medical Relief (% unspecified)

However, since budget issuance, prices have gone up and a supplemental amount has been allocated. Singegorye has a budget of about 4 million rubles, with 1.3 million of that for physician salaries.

In the Yagodnoye District, a beginning physician is paid 260 rubles per month. Every six months a six percent salary increase is given, with a limit of six raises. A doctor can earn up to 1,150 rubles a month, depending upon administrative responsibilities and extra shift work.

Nurses are paid 160 rubles a month and may earn up to 600 rubles, depending upon years of experience and administrative responsibilities.

### **ADMINISTRATION AND BUDGETING PROCESSES IN YAGODNOYE**

The visit to Yagodnoye provided information of a broader scope, covering administration at Yagodnoye District and Magadan Regional levels. Governmental health program administration consists of a special council of physicians and nurses held in Moscow that studies medical problems in the whole country and in the particular regions. In Magadan, there is also a special high level

council to decide and organize the budget in the individual districts. A local council decides general questions. If there are some difficulties in deciding, a special commission of deputies from Magadan decides. Reports are made to Magadan every three months as well as an annual budget report. A Magadan council is held every October to conduct discussions for the future development of medical services.

### **HEALTH SERVICE PRIORITIES, PLANNING AND POLITICAL CHANGE**

Physicians from the three districts in the Magadan Region convene periodically to compare and discuss problems with the deputies. Such meetings are held four or five times a year. There is also a system for medical workers to meet with the deputies. Magadan considers maternity issues to be a priority, but no percentage of rubles spent could be obtained.

When asked if politics or perestroika have changed anything in administration of the medical services, the question brought a spate of laughter, followed by some serious answers. They can no longer get many needed supplies because they are manufactured in the republics which have withdrawn from the USSR. This is, understandably, an area of great concern to the administrators.

### **DISTRICT SIZE, MEDICAL STAFFING AND FACILITIES**

There are three cities, six large settlements or towns, and many small settlements of 200-300 people in the Yagodnoye District. Population is 55,000 for the whole district; Singegorye has 13,000; Orotukan 7,000; and Lebin has 3,500. There are approximately 70 doctors and 380 nurses in the

Yagodnoye District staffing approximately 16 hospitals and "polyclinics".

### **BUDGETING PROCEDURE**

For 1991, budgets were submitted to the Magadan deputies, who have the ability to change it. A budget of 16.5 million rubles was submitted, and was changed to 18 million by the deputies. This change was attributed to inflation and the difficulty of living and working.

Hospital and clinic repairs and improvements will be done one institute at a time. This method allows each hospital to receive all the repairs needed at once, instead of spreading out the minimal resources and being able to



Medical records room in Singegorye clinic

make only a few changes at a time. Since building materials are scarce, they felt it was much more cost-effective to focus on one at a time while materials are available to that area.

The hospitals and clinics have, by American standards, old technology and equipment. There is a shortage of surgical supplies, especially gloves and medications, needles are re-sterilized, and there are very few typewriters and copy machines in the offices.

The centralized health budget program comes from the USSR Department of Health Council of Ministers in Moscow. From the highest level, they are then passed down to the regional level Deputies Council in Magadan and then continue down until they reach the Yagodnoye District.

There is a Five-Year-Plan which covers all aspects of health care, but only the medical services have been living up to the plan. All the others are only 50% effective in living up to the Plan. The medical services portion cannot raise itself up further because it is tied to all the other services in the plan.

#### **ORGANIZATIONAL PROBLEMS IN ADMINISTRATION AND MANAGEMENT**

Normally, a physician is employed as the Chief hospital administrator. About 75-80% of the Chief's time is spent analyzing economical problems, going through all the channels to assure acquisition of needed medical supplies, and keeping ambulances, radios and operating equipment in repair. Medical equipment replacement parts are almost impossible to substitute because no replacement system has been developed and parts are in such short supply.

The cost of equipment and supplies has risen with inflation. They are working in deficit. Some administrators would like to improve the hospital by having all essential services done at the hospital and having all other services paid for by the patients who received them. This would imply a blend of government subsidization and privatization of medical services in the region. By doing this, the hospitals/clinics would have more cash with which they could purchase medications or technology to upgrade their facility.

#### **SUMMARY AND RECOMMENDATIONS**

This visit provided an understanding of the Soviet area that is similar to Alaska in size, geography, climate, and population. An equal concern for providing health services for patients was seen at the district and local levels. As in Alaska, the Magadan Region must face the rising costs of health care, the threat and actuality of HIV, alcohol-related problems, unwanted pregnancies, a need for more health education, and a need for equal access to

health care for all people.

In delivery of rural health services, limitation in funding, shortages of equipment and supplies were evident. Comparatively low technology was seen in the hospitals. The visiting team recognized the possibility of extreme degradation of the Magadan Region's public health system because of the political and economical changes in the Soviet Union. Although we may be unable to help with any of these problems at macro-political and macro-economic levels, the trip served to emphasize the need for continued communication and information exchange. The following recommendations are made:

1. Now that a profession-by-profession orientation has been done, a focus on programs could result in the sharing of more specific information.
2. An extended period of time at specific medical facility sites would be invaluable in obtaining more detailed information on rural health service administration. Factors concerning the retention of medical staff in these areas can be observed first hand and discussed.
3. Reciprocal visits by colleagues from the specific sites in order to continue a working and learning relationship and exchange of information and data. Work could then be continued on specific areas of interest and need.
4. Since a shortage of medical texts and journals exists in Magadan, collecting of medical publications from local health professionals that could be translated and passed on to Magadan health care workers would help give them some access to Western methods and research.



# Epidemiology and Public Health in the Yagodnoye District

Michael Beller, MD, MPH<sup>(1)</sup>

## ABSTRACT

Yagodnoye District (population 48,622 as of January 1, 1991) is one of seven administrative districts in the Magadan Region of the Russian Republic, USSR. The population age-distribution is different from that of the United States or Alaska with a larger proportion of persons 20-49 years of age and relatively few people  $\geq 60$  years of age. Public health and epidemiologic services are provided by a Sanitation and Epidemiology Station with a staff of approximately 108 persons, including 19 doctors. Major activities include Environmental and Occupational Health, Vector Control, Bacteriology Laboratory, and Epidemiology. Epidemiologic services are highly focused on infectious diseases despite the apparent presence of other major public health problems.

## INTRODUCTION

This paper describes the organization and functions of epidemiology and public health services in the Yagodnoye District, Magadan Region, Russia. Interviews with Soviet epidemiologists and public health officials were conducted by the author over a 2-week period in July 1991. This process was constrained by the relatively short duration of the visit and an absence of translators with knowledge of medical terminology. Furthermore, all observations and inferences are influenced by an orientation to a Western medical model that may have underlying assumptions and concepts which differ from those of Soviet physicians and health care providers. Regardless of these limitations, this initial exchange between Soviet and Alaskan epidemiologists was productive and identified at least two possible topics for future collaborative studies.

## DEMOGRAPHIC AND OTHER CHARACTERISTICS

Yagodnoye District's official census was 48,622 persons as of January 1, 1991. It is one of seven administrative districts in the Magadan Region and is probably the functional equivalent to a county or borough

in the United States. The terrain and climate are comparable to interior Alaska; chief industries include gold mining and hydroelectric generation. The district has approximately 24 permanent settlements with populations ranging from a few hundred to several thousand people.

Most residents have moved to the area from other parts of Russia or the Soviet Republics. Although the population increased dramatically between 1970 and the mid-1980s, an outmigration beginning in 1989 has led to a recent decline in population (Figure 1). Medical personnel have prepared an unofficial population age-distribution based on their December 1, 1990 count of 48,210 residents (Figure 2). The unofficial count differs from the official total because it was taken a month earlier and was conducted by medical rather than census staff.

Selected demographic characteristics of residents of Yagodnoye District are shown in Table 1. The median age of district residents (32.8 years) is quite close to that of U.S. residents (32.3 years), but older than that of Alaska residents (28.3 years). The age-distributions of these three populations differ markedly (Figure 2). Persons 20-49 years of age comprise 56.3% of the Yagodnoye District population but only 45.3% and 52.7% of the U.S. and Alaska population respectively<sup>1,2</sup>. Only 2.8% of the district population is  $\geq 60$  years of age, a considerably smaller proportion than in the U.S. (16.8%) or Alaska (6.4%)<sup>1,2</sup>. These differences are probably due to the relative transiency of Yagodnoye District residents with many persons coming to the area for work but leaving at or before retirement age.

Because of differences in age-distribution, the birth and death rates for district residents should not be compared

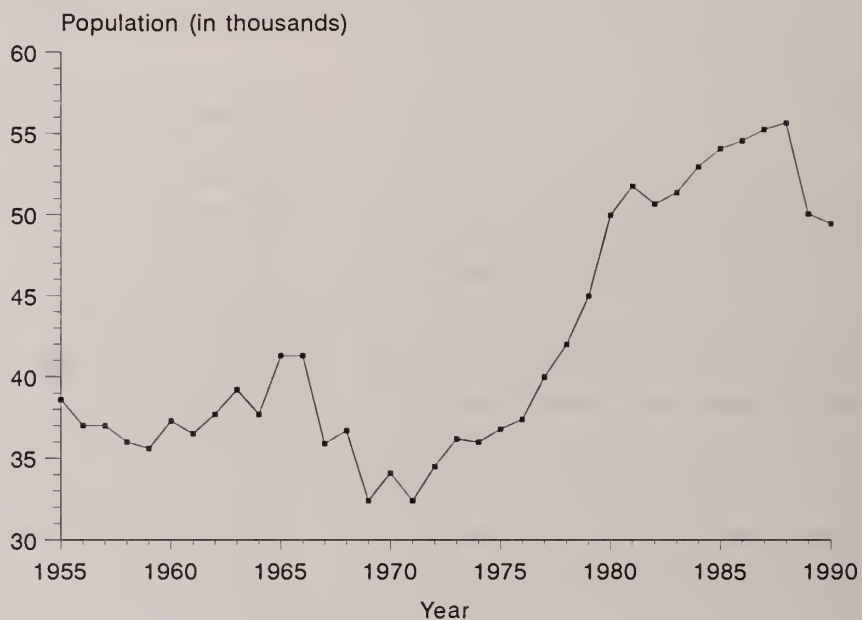
<sup>1</sup>Alaska Division of Public Health, Section of Epidemiology, P.O. Box 240249, Anchorage, AK 99524-0249



Children's inoculation poster, Sinegorye clinic

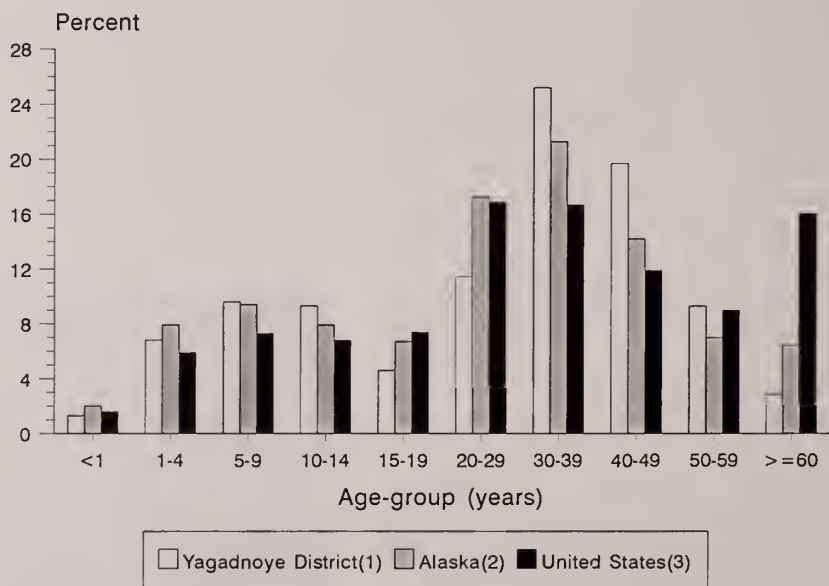
**FIGURE 1**

Figure 1. Population of Yagadnoye District 1955-1990; by year, as of January 1.



**FIGURE 2**

Figure 2. Population age-group distribution; Yagadnoye District (1990), Alaska (1990), and United States (1988).



1. December 1, 1990 unofficial count.  
 2. July 1, 1990 estimate; from ref. 2  
 3. July 1, 1988 estimate; from ref. 1



Table 1. Selected demographic characteristics of residents of Yagodnoye District (1990), Magadan Region (1990), Alaska (1987), and the United States (1988).

<u>Characteristic</u>	<u>Yagodnoye District<sup>1</sup></u>	<u>Magadan Region<sup>1</sup></u>	<u>Alaska<sup>2</sup></u>	<u>United States<sup>3</sup></u>
Median Age (years)	32.8	NA	28.3	32.3
Birth Rate (per 1000)	14.4	14.6	21.7	15.9
Infant Mortality Rate (per 1000 live births)	20.3	18.3	10.4	9.9
Crude Death Rate (per 1000 pop.)	4.3	4.5	3.8	8.8

Notes:

1. Information obtained from Sanitation and Epidemiology Station, Yagodnoye District.  
NA = not available.
2. From ref. 5.
3. From ref. 1.

to the rates in the U.S. or Alaska (Table 1). For example, the crude death rate is lower than the U.S. rate because very few elderly persons (the age-group with the highest death rate) reside in the district. Unfortunately, the data provided was not adequate to calculate an age-adjusted mortality rate for the district. The infant mortality rate may be compared across populations: Yagodnoye District and Magadan Region have alarmingly high infant mortality rates - approximately twice that of the U.S. or Alaska. These high rates are observed despite a health care system which provides universal access to medical care.

## PUBLIC HEALTH AND EPIDEMIOLOGY

The organizational structure of public health and epidemiologic services at the Magadan Region level has been previously described<sup>3</sup>. At the district level, services are provided by Sanitation and Epidemiology Stations (Figure 3). Unfortunately, the administrative relationships between the Magadan Region Director of Sanitation and Epidemiology and district services could not be clarified. Likewise, the relationship of these services to the clinical arm of the Ministry of Health was unclear. Apparently, public health and epidemiologic functions are conducted with substantial and increasing financial and administrative autonomy from the Ministry of Health.

The Sanitation and Epidemiology Station (SES) for Yagodnoye District is composed of four major programs and has a total staff of approximately 108 people (Figure 4). The first three programs are briefly described, followed by a somewhat more in-depth description of epidemiology:

**1. Environmental and Occupational Health.** This program is responsible for inspecting public drinking water, dining facilities, and foods; investigating

occupational illness; operating a childhood development section; and running an analytic laboratory to support testing of food and water specimens. A detailed understanding of these activities was not obtained.

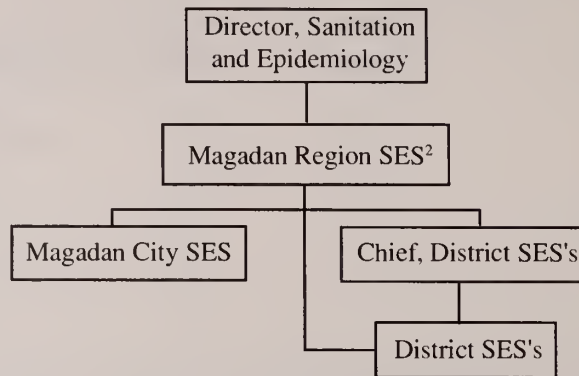
**2. Vector Control.** This program appeared to provide services comparable to a commercial pest control company. Activities include application of chemicals, baits, or traps to eradicate or control rodents, mosquitoes, and insects in buildings. Depending upon the circumstances, most services are provided on a fee-for-service basis.

**3. Bacteriology Laboratory.** The laboratory seemed to function as the bacteriology section of a hospital clinical laboratory. Activities include bacterial cultures of stool and respiratory secretions and identification of isolates. It was not clear what types of procedures the laboratory uses or what serologic tests are available. Apparently, virus isolation is available in Magadan city, although there is no mechanism to transport specimens for virus isolation from the district to Magadan.

**4. Epidemiology.** This program has three components: infection control; vaccine distribution; and infectious disease surveillance, investigation, and control. Infection control activities include teaching the staff of hospitals, day-cares, and other institutions proper methods for handling potentially infectious waste and isolating persons with communicable disease. Vaccines distributed by the SES include measles and mumps, diphtheria, pertussis, tetanus, and oral polio. It was not clear how the vaccine distribution system works or what other vaccines, if any, are available.

Surveillance is conducted for at least 41 infectious diseases. When necessary, epidemiology staff travels to

Figure 3. Organization of sanitation and epidemiology services, Magadan Region, Russia<sup>1</sup>



Notes:

1. Adapted from Figure 2, ref. 3.
2. Sanitation and Epidemiology Station.

outbreaks to conduct investigations and institute control measures. Because a form obtained from the SES which was supposed to include all reportable diseases did not list several conditions which apparently are reportable (cholera and pediculosis, for example), the exact number of reportable diseases could not be determined. Disease reporting is done by doctors, largely by telephone. The major exceptions are upper respiratory illness and influenza which are routinely reported as total number of cases only. The 1990 morbidity for the 41 infectious diseases listed on the Russian form is shown in Table 2.

The diagnosis and treatment of several conditions were discussed in somewhat greater detail:

**a - Tuberculosis.** There is an extensive tuberculosis control program centered on BCG vaccination and skin testing. Children are routinely given BCG at 5-7 days of age followed by repeat doses at approximately 6, 11, 16, 22, and 32 years. All children 1-16 years of age have an annual intradermal tuberculin test (using the Mantoux method). Working adults also have annual Mantoux tests although the age at which testing stops was not determined. It was not possible to discuss how Mantoux tests are interpreted.

Physicians distinguish between tuberculosis disease and infection. Persons with tuberculosis disease receive inpatient care at a district tuberculosis hospital. The usual treatment consists of a 6-month course of intravenous and oral isoniazid, oral ethambutol and rifampin, intermittent surgical pneumoperitoneum, prednisolone, and intradermal high-strength PPD. Patients are expected to have a negative Mantoux test at the completion of treatment. By way of contrast, patients in the U.S. with tuberculosis are usually treated with a combination of two or more antimicrobials,

but are infrequently hospitalized and rarely undergo surgery.

Approximately 15-20% of patients with tuberculosis had *Mycobacterium tuberculosis* cultures which were resistant to isoniazid. These patients were treated with alternative anti-tuberculosis medications. Children with tuberculosis infection are usually given 3 months of oral isoniazid at home. Selection criteria for treatment of older individuals with a reactive Mantoux test could not be determined.

**b - AIDS and human immunodeficiency virus (HIV) infection.** Mandatory HIV antibody testing is required for all registered prostitutes and homosexuals (apparently people are registered following criminal conviction of either activity). It was not clear how often registrants are tested or what action might be taken following a positive result. Apparently, a system has been established for anonymous HIV testing to be conducted at hospitals. Pregnant women and those undergoing abortion are tested for HIV antibody. The total number of people who have been tested was not provided. Laboratory analysis (apparently using an indirect fluorescent antibody test) is conducted in Magadan city and positives are confirmed in Khabarovsk (using immunoblots). At the time of this visit, public health officials stated that there were no confirmed HIV positive persons in Yagodnoye District or Magadan Region.

**c - Other viral diseases.** Laboratory support for diagnosis of other viral diseases is extremely limited. Rubeola (measles) and other childhood febrile rash illnesses are generally diagnosed on clinical rather than serologic criteria. Testing for "Australia antigen" - presumably hepatitis B surface antigen (HBsAg) - only recently became



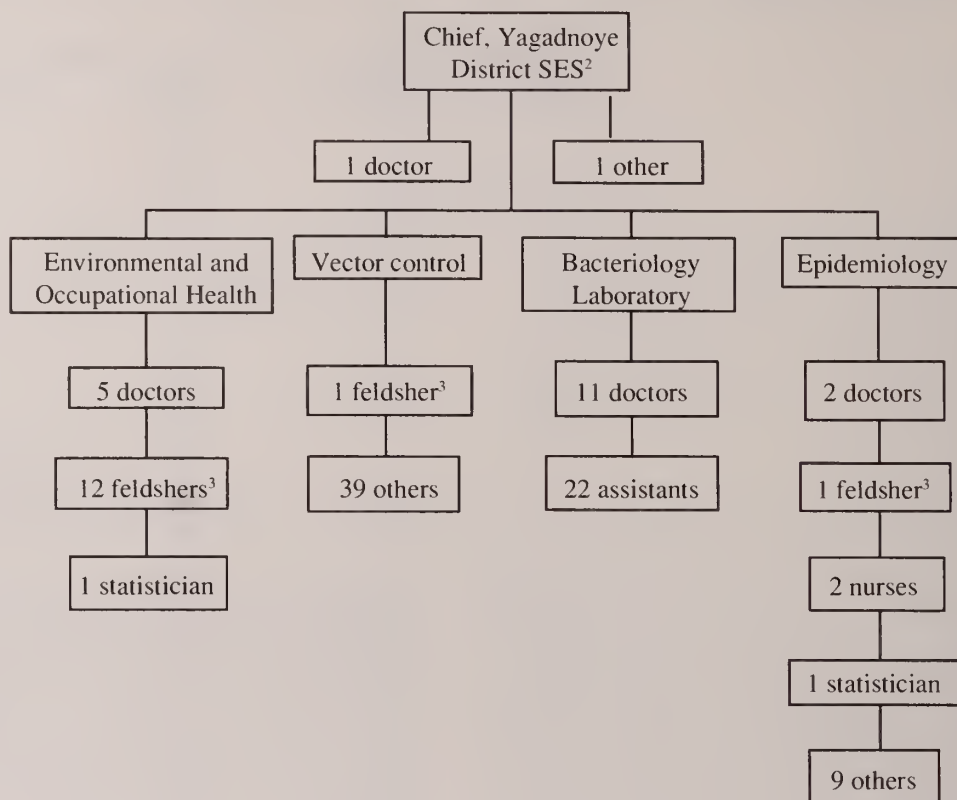
Table 2. Number of cases and incidence rates (per 100,000) for reportable diseases, Yagodnoye District and Alaska, 1990.

Disease	Yagodnoye District		Alaska	
	Cases	Incidence <sup>1</sup>	Cases	Incidence <sup>2</sup>
AIDS	0	0	16	2.9
Anthrax	0	0	0	0
Ascariasis	26	53.9	NR <sup>4</sup>	-
Brucellosis	0	0	0	0
Diphtheria	0	0	0	0
Diphyllobothriasis	NA <sup>3</sup>	-	3	0.5
Encephalitis, tick-borne	0	0	NR	-
Enterobiasis	474	983.2	NR	-
Gastroenteritis	34	70.5	NR	-
Gonorrhea	NA	-	1181	214.7
Hemorrhagic fever	0	0	NR	-
Hepatitis A	53	109.9	190	34.5
Hepatitis B	11	47.7	58	10.5
HIV positive	0	0	NR	-
Hymenolepiasis	0	0	NR	-
Influenza	3921	8,133.2	NR	-
Leptospirosis	0	0	0	0
Malaria	0	0	2	0.4
Meningococcal infection	0	0	12	2.2
Mononucleosis	3	6.2	NR	-
Mumps	6	12.4	NR	-
Pasteurellosis	21	43.6	NR	-
Pertussis	3	6.2	18	3.3
Pneumonia, unsp. bacterial	0	0	NR	-
Poliomyelitis	0	0	0	0
Psittacosis	0	0	0	0
Rabies	0	0	0	0
Rubella	23	47.7	0	0
Rubeola (measles)	1	2.1	80	14.5
Salmonellosis	33	68.5	107	19.5
Scarlet fever	45	93.3	NR	-
Shigellosis	41	85.0	11	2.0
Syphilis	NA	-	27	4.9
Tetanus	0	0	0	0
Trematode infection	0	0	NR	-
Trichuriasis	1	2.1	NR	-
Tuberculosis	12	24.9	66	12.0
Tularemia	0	0	2	0.4
Typhus	0	0	NR	-
Upper respiratory infection	18,992	39,394.3	NR	-
Varicella (chicken pox)	460	954.2	NR	-

Notes:

1. Yagodnoye District incidence rates based on December 1, 1990 population estimate of 48,210.
2. Alaska incidence rates based on April 1, 1990 population estimate of 550,043.
3. NA = not available. Though diphyllobothriasis, gonorrhea, and syphilis are reportable in Russia, the number of cases was not provided.
4. NR = not reportable. Many infectious diseases reportable in Russia are not reportable in Alaska.

Figure 4. Organization and staff<sup>1</sup> of Sanitation and Epidemiology Station, Yagadnoye District.



Notes:

1. Staff shown is approximate only.
2. SES = Sanitation and Epidemiology Station
3. A feldsher is a mid-level practitioner who has more training than a nurse, but less than a physician.

available. Hepatitis A is a diagnosis of exclusion - persons with clinical hepatitis who are HBsAg negative are considered to have hepatitis A. Physicians seemed unaware that in the U.S., hepatitis B vaccine and serological testing for hepatitis A were routinely available. Influenza is distinguished from other respiratory infections solely on clinical (and perhaps epidemiologic criteria); as previously mentioned, viral cultures are not available in the district.

**d - Childhood heavy metal poisoning.** Testing for blood lead or erythrocyte protoporphyrin is not available. The Chief of Pediatrics at the District Hospital in Yagadnoye felt that childhood anemia secondary to iron deficiency was common. Two children in the district had recently been diagnosed with mercury poisoning.

**RECOMMENDATIONS**

1. This work represents the first visit of a medical epidemiologist from Alaska to the Yagadnoye District of the Magadan Region of Russia. In order to correct

inaccuracies or other errors in this paper, an earlier version (translated into Russian) was shared with the Soviet physicians who participated in discussions and provided information. Since no comments were received, all observations and conclusions should be taken cautiously and considered provisional and unconfirmed. Although a broad overview of public health and epidemiology in Yagadnoye District was obtained, many details remain unclear. Because of the difficulty in establishing a clear and unambiguous dialogue with Soviet physicians and epidemiologists, it was practically impossible to have a detailed scientific conversation. It is strongly recommended that expert medical and technical translators be utilized for all future activities.

2. The effectiveness of some medical practices should be carefully assessed. For example, corticosteroids and surgery are not a routine part of the management of tuberculosis in the U.S. (although their use may be indicated in rare circumstances). It is also recommended that the control measures routinely followed for other infectious



diseases be compared to those practiced in the U.S.<sup>4</sup> and that where substantial differences exist, the effectiveness of current practices be examined.

3. Although it appears that many major health problems in the district are unrelated to infectious disease (for example, the high infant mortality rate and the observed extremely high prevalence of cigarette smoking), epidemiologic activities have remained sharply focused on infectious disease. This is a situation similar to epidemiology in Alaska perhaps 5-10 years ago. It is suggested that epidemiologists begin to examine other health problems in the population such as chronic disease, unintentional injury, and infant mortality. By providing a clear and detailed understanding of such problems, intervention strategies to improve the health status of residents of the district can be designed and evaluated.

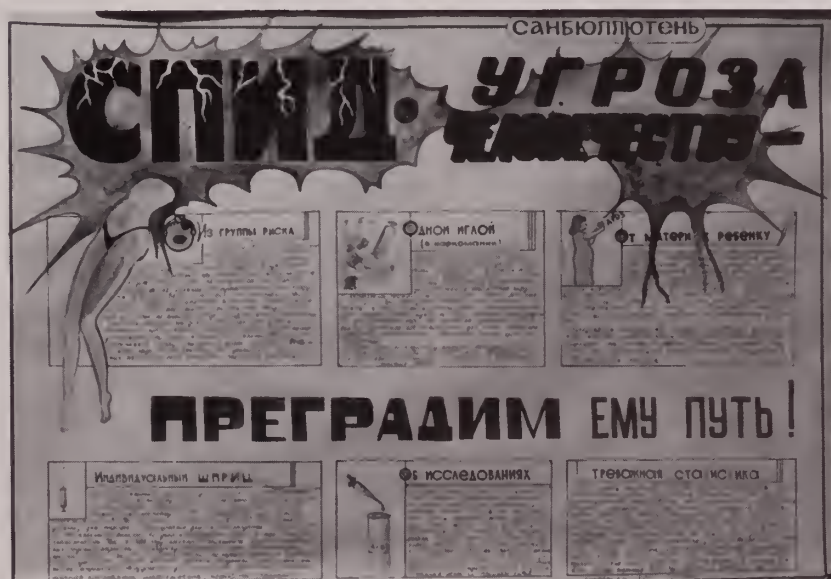
4. Soviet physicians appeared to be eager to collaborate with their Alaskan colleagues. Understandably, there was particular interest in conducting a survey of blood lead levels or hepatitis A antibody in children - studies for which laboratory technology is not yet available in the district. Such surveys can be quite useful, but require careful planning and coordination. The possibility of conducting collaborative epidemiologic studies should be explored in greater depth in future exchanges.

## ACKNOWLEDGMENTS

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AIDS prevention poster in outpatient department

# Alaska/Magadan EMS Project: Phase Two

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## ABSTRACT

In July, 1991, five members of the Alaska/Magadan Medical Exchange group visited the Magadan/Chukotka Region of the Soviet Far East, to continue studies of the emergency medical services (EMS) system, and to implement recommendations for system improvement developed during the previous year. During this exchange visit, major efforts focused on development of a rapid defibrillation system for the city of Magadan, technical assistance and training to upgrade burn treatment capabilities, and training and equipping prehospital emergency medical service providers to perform spinal immobilization techniques on traumatic injury patients. Further studies were conducted to compare EMS in the Magadan/Chukotka Region with EMS in Alaska, and recommendations are being presented for further collaborative projects.

## INTRODUCTION

Following the reports on medical and health exchange projects between Alaska and the Magadan/Chukotka Region, USSR, which appeared in the January/March 1991 issue of *Alaska Medicine*, an agreement was signed between: Minister of the Magadan Regional Health Department, the State of Alaska Department of Health and Social Services, and the University of Alaska Anchorage Institute for Circumpolar Health Studies.<sup>1</sup> This agreement listed objectives for future collaborative exchanges in eleven different medical or health fields, including emergency medical services.

Ten objectives were listed in the EMS section of this agreement. These objectives are discussed and progress reviewed in this report in addition to general information regarding this expedition to the Magadan Region.

On July 3, 1991 the delegation of Alaska health and medical specialists returned to the Magadan Region to continue these health and medical exchange projects.

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After arrival at the airport in Magadan, and a dinner reception, the group was divided and transported to different parts of the Magadan Region.

Mark Johnson and Dr. William Wennen were sent to the city of Magadan, Steve O'Connor and Mo Hillstrand were sent to the towns of Sinegorye and Yagodnoye, and Mari Cavens was sent to Anadyr. Toward the end of this exchange visit, the entire delegation reassembled in the city of Magadan for the last two days prior to returning to Alaska.

## CITY OF MAGADAN AND SURROUNDING AREA

Having received donations from medical equipment manufacturers, Mark Johnson delivered donated equipment, including three automated external defibrillators and accessories and several boxes of cervical collars. Steve O'Connor also brought two wooden backboards to be used in training sessions and for templates so the Soviet doctors could duplicate them. One backboard was taken to the city of Magadan and the other was taken to Sinegorye and Yagodnoye.

While in Magadan, Johnson presented a lecture and video presentation to the emergency medical services physicians on the reasons rapid defibrillation programs increase survival from out-of-hospital cardiac arrest, and on the reasons for using spinal immobilization techniques on traumatic injury victims. When Steve O'Connor and Mo Hillstrand joined him in Magadan near the end of the trip, they helped provide training on the use of this equipment.

There also was agreement to conduct a comparative study of out-of-hospital cardiac arrest resuscitation rates between the cities of Magadan and Anchorage, Alaska. Table 1 provides baseline data for this study.

Table 2 also shows a comparison of spinal cord injury patients between Magadan and Anchorage.

While in the Magadan area, Johnson and three other members of the expedition had the opportunity to observe an Aeroflot Search and Rescue Team exercise at a wilderness lake. During this exercise, a simulated rescue of a person in a rubber raft was performed using doctors parachuting out of a helicopter. Due to strong winds, only one of three parachuting doctors was able to land close



**Table 1. Resuscitation of Patients Experiencing Out-of-Hospital Cardiac Arrest**

	Magadan 1/90 to 6/91	Anchorage 1/90 to 6/91
Total # of Cases	26	50
a. Ventricular		
Fibrillation	23	20
b. Asystole	3	24
c. Other (EMD, Idioventricular, Etc.)	0	6
Results of Defibrillation (of those patients in V-Fib.):		
a. Heart Rhythm did not recover	17	11
b. Heart Rhythm did recover	6	9
Survival Rate (Discharged alive)	5	3
Mortality Rate	1	5
Unknown (still in hospital when data collected)	0	1

**Table 2. Spinal Cord Injury Patients**

Magadan	17	1/90 - 6/91 (18 months)
Anchorage	43	1/91 - 12/91 (12 months)

enough to the raft to perform rescue techniques. It was not clear why parachutes were used when the helicopter was equipped with a hoist.

Later, a simulated victim with a fractured leg was rescued by first activating an emergency locator transmitter (ELT) and flares to call in a helicopter to the scene, and then a doctor was dropped to the ground by a hoist. The ELT transmitted on 121.5 MHz, one of two international emergency locator radio frequencies, which can be picked up by aircraft or satellites. After the victim's leg was splinted and bandaged, the victim and later the doctor were hoisted back up into the hovering helicopter.

This team conducts an average of 10 to 15 search and rescue missions per year, both on land and at sea. There is one Aeroflot Search and Rescue Team based in Magadan, and another based in Anadyr. Aeroflot helicopters and fixed wing aircraft communicate with each other on the 114.5 MHz VHF frequency, and with ground units or ships on the 118.8 MHz VHF frequency.

Johnson also had the opportunity to visit a gold mine near Palatka, about 75 kilometers by road from Magadan. He accompanied a mine rescue team into the mine for a rescue exercise.

The incident involved a simulated victim overcome by fumes. The rescue team, with self-contained breathing apparatus, came to the assistance of the victim with respiration equipment, and loaded the victim onto a stretcher to be taken out of the mine. Although the rescuers' equipment seemed somewhat antiquated, the organization and esprit de corps of the team appeared to be excellent. This rescue team averages about nine mine rescues per year. It also provides fire and rescue services to the neighboring town.

## MAGADAN REGIONAL HOSPITAL

Dr. William Wennen spent most of his time at the Magadan Regional Hospital, which is the main hospital for the city of Magadan, and a referral center for the Magadan Region for medical problems too complex for smaller community hospitals.

Emergency transportation from outlying communities is most often provided by air, either by helicopter or fixed wing aircraft, usually on a special notice basis. There are no aircraft dedicated solely to air ambulance missions in the region. Transported patients usually are accompanied by physicians with portable medical equipment. Communications from smaller towns and villages to the Magadan Regional Hospital is by telephone, but there are few lines and communications are sometimes difficult.

An acutely ill or injured patient being brought to the Magadan Regional Hospital is seen first in the "Department of Reanimation". This is a cross between an American Emergency Department, Postoperative Recovery Room, and Intensive Care Ward. The Department of Reanimation is staffed by full time anesthesiologists as well as nursing support staff. The anesthesiologists are capable of such procedures as putting in chest tubes, intubations, venous cutdowns, putting in central lines, repairing lacerations, temporarily stabilizing fractures, initial resuscitative burn care, initial cardiac care, and handling acute internal medicine emergencies.

Major trauma victims are then transferred or are cared for conjointly by the anesthesiologists and traumatologists, which is the Soviet version of a cross between a general surgeon, an acute care orthopedic surgeon and, for burn care, a plastic surgeon.

## BURN CARE EVALUATION

At this time the Magadan Regional Hospital does not have an identifiable burn unit and burns are currently cared for on other wards, (e.g. general medical, surgical/orthopedics, pediatrics, etc.) Approximately 300 burn victims are seen each year in Magadan.

It is difficult to ascertain the number of seriously burned patients seen at the Magadan Regional Hospital or that occur throughout the region. A patient with a 50%

burn usually does not survive in the Soviet system. Consequently, it is believed that a number of the very severe burns probably do not even get transferred to the regional centers. Those that do, if they are 50% or greater, sometimes get transferred on to Moscow for further care.

Training in acute care burn resuscitation in the small community hospitals and polyclinics is rudimentary at best, and there appears to be a significant lack of adequate supplies for acute burn resuscitation. In cases of multiple casualty injuries, as has recently happened in the Magadan Region, a number of people perished secondary to inadequate resuscitative methods and supplies.

This incident involved a busload of people that collided with a fuel tanker truck in a remote rural area. The injured victims were initially treated locally and a surgeon from Magadan flew out to the area a day or so later. Although details of this incident are sketchy, there apparently was significant loss of life. Of the patients from this disaster who were transferred to Magadan Regional Hospital, additional deaths were encountered for similar reasons. The physician who flew out to the scene of this particular tragedy recounts findings of inadequate fluids and inadequate methods of resuscitation.

Laboratory procedures in the outlying communities are all done by hand so reliability and accuracy is less than what might be expected with more up-to-date technology. Consequently, routine chemistries, blood sugars, and many of the other necessary hematological evaluations on a major burn patient are of questionable accuracy or totally lacking in the smaller communities. This makes monitoring of some of these lab values, including serum proteins, serum and/or urine osmolalities, serum electrolytes, and so on, difficult. Some of these values are very important, if not critical, to the management of an acute burn.

Resuscitation fluids consist of basically two types, one is a solution resembling Ringer's Lactate and another resembles saline. There appeared to be very little else in available intravenous fluid solutions.

Blood donations are on a paid basis and donors are sometimes difficult to acquire, even with donors being compensated.

On review of the laboratory techniques, it appears that they only crossmatch for the A, B, O and Rh groups/factors. It did not appear that they have the antisera or the technology to crossmatch beyond these major groups. They do, however, lyophilize the plasma and claim they can get several years storage life out of the freeze dried

plasma proteins.

There did not appear to be any equipment for monitoring of intra-arterial pressures and virtually all equipment, central lines, intravenous catheters, urinary catheters, needles, etc. are recycled.

Sutures are of two basic types: cotton and a catgut derivative that is somewhere between the American version of plain and chromic catgut. These are not individually packaged but come stored in glass jars in a preservative solution, presumably alcohol. All needles have to be hand threaded. There were no available swaged-on needles except for perhaps a very few that had been brought over by Americans to be used in conjunction with very delicate eye surgery.

Topical antibacterials included the recently imported Bacitracin ointment and Furacin ointments. Wound cleansing is done with a peroxide-like solution and quite often under Ketamine.

Fiberoptic helium laser cables are threaded through central venous lines, and then allowed to wave free in the central venous line while the laser is turned on, ostensibly to "clean the blood." The extracorporeal circulation of blood through charcoal filters is quite common to "detoxify" the blood.

They do not have the availability of skin meshers for skin grafting. The only electric dermatome that appeared to be available was made in Gorky, Russia and was of good quality construction with a fully adjustable, resharpenable blade, but it appeared to be very heavy and awkward in its use and

would cut only a fixed width of skin with no variability except for thickness. There is also no availability of compressive garments for treating burn hypertrophic scarring of any sort.

There has not been a Western medical journal available in the Soviet Far East for perhaps two generations. The Magadan Regional Hospital does not have a library and the medical publications available are published in the USSR, are very few and far between, and are very limited in scope and depth, as well as in modern knowledge and technology.

## SINEGORYE AND YAGODNOYE

Sinegorye is approximately 600 kilometers north of Magadan. There are 32 settlements in this sub-region with a total population of 49,000. Sinegorye and Yagodnoye are the largest communities in this area. Sinegorye is a



Treatment of a simulated leg fracture during S&R exercise



relatively new town, founded in 1965. It has a population of approximately 11,000, including 3,000 children, of which 2,000 are school age. It serves as a support base for a large hydroelectric project. This project is nearing completion with four large turbines in place, generating 400 megawatts of electricity, and a fifth turbine to be placed in the near future. Apparently, there are plans for another large hydroelectric project in this area in the future. The other major industry in this region is mining, particularly gold mining.

Yagodnoye, a two hour drive north of Sinegorye, is comparable to Sinegorye in approximate size and population although it is a much older community. It is on the main highway that runs north from Magadan.

The ambulances in Sinegorye are based at the hospital while the ambulances in Yagodnoye are based at a clinic near the hospital. Three ambulances serve each community. These ambulances are European built and look similar to old Volkswagen vans. They are staffed with either nurses and physician's assistants, called "feldshers", or nurses and physicians, along with a driver, depending on the nature of the call.

There appeared to be a distinction between basic life support (BLS) and advanced life support (ALS) ambulances. Advanced life support ambulances respond to all cardiac incidents, pediatric calls, and any trauma that sounds significant. BLS ambulances respond to most other calls.

Patients are brought by ambulance to the resuscitation department. Here, the seriously injured or ill patients are kept for evaluation and treatment, while other less serious patients are sent to appropriate departments in the hospital. There are no pre-hospital providers like we have in the U.S., such as Emergency Medical Technicians or paramedics. Also, there did not appear to be anything resembling standing orders or pre-hospital protocols, but pre-hospital patient care report forms are used. Staffing levels provide twenty-four hour coverage of the ambulances with crews working twelve hour shifts and having twenty-four hours off duty.

Like elsewhere in the Soviet Union, citizens can call for an ambulance by dialing 03 on the telephone. All incoming calls are tape recorded at the ambulance dispatch center. Dispatch coverage is provided around the clock with dispatchers working twelve hour shifts with the medical teams who ride on the ambulances. The dispatch/ambulance log records the run number, time of call, time of dispatch, time of arrival on scene, the time the ambulance left the scene for the hospital, time the ambulance arrived at the hospital, name of the individual who called for help, the patient's name, sex, age, address, chief complaint, vital signs, all treatments given, and the time the ambulance arrived back in quarters. There is also the ability to receive EKG telemetry from the field, at the medical facilities.

EMS staff related that when rescuers are sent out into

wilderness areas they are provided with communications equipment. There also are communications with all small clinics in villages or small towns in outlying areas. Serious patients are brought into town or a crew flies out in a helicopter and brings the patient back. Military helicopters and civilian Aeroflot helicopters are used extensively to transport patients. Magadan is the major referral center for both Sinegorye and Yagodnoye.

The ambulances are very minimally equipped with most of the equipment being carried in kits that are taken by the crew from the hospital when they go on a call. These kits contain basic medical supplies, I.V. sets, solutions, oxygen, and medications. Also observed were small portable Nitronox units for pain relief. In the back of each ambulance there is a short squad bench on one side and an army type stretcher suspended on the other side. It looks as though it would be possible to suspend two stretchers on that side. The ambulances also carry basic splints including wire ladder splints, wood splints, and plastic type splints. Each ambulance has radio communications between vehicles, dispatch, and the medical facilities, using a low band VHF frequency.

The ambulances are painted a military drab green with a red cross on each side, the word "ambulance" stenciled on the sides, and a blue light on top.

Each ambulance also carries a battery powered 12 lead EKG and a separate battery powered defibrillator. These defibrillators are smaller than those observed in Pevek in the summer of 1990 and are about the size of a Lifepak 10, using sternum/apex defibrillation paddles rather than the anterior-posterior approach to defibrillation observed in Pevek.<sup>2</sup> Saline pads are used with the defibrillator. No extrication equipment was observed, nor were pneumatic anti-shock trousers, traction type splints, or spinal immobilization equipment.

Each ambulance service averages about 10,000 calls per year. However, only ten to fifteen percent of the patients are transported to the hospital. As in other parts of the Soviet Union, ambulances are used to transport doctors or feldshers to home visits for primary medical care as well for emergency care and transportation.

Trauma does not appear to be the problem in this area that it is in Alaska or elsewhere in the United States. This is probably because there are fewer motor vehicles in the Soviet Union at this time. Death from traumatic injury ranks third or fourth behind cardiac disease, respiratory problems, and cancers.

Most traumatic injuries appear to be related to injuries in the home, followed by industrial injuries and lastly motor vehicle crashes. Common types of injuries are falls and thermal injuries, both hot and cold. Burn injury in the home is a common pediatric injury. Based on discussions with Soviet physicians, death from burn injuries or smoking related fires may not be as big a problem in the Soviet Far East as in Alaska. However, there were two deaths just

prior to this visit from a wildland fire that resulted from two individuals drinking, smoking, and falling asleep on a hillside.

Of the patients transported to the hospital, approximately fifteen to twenty percent are trauma related. This could substantially increase as the Soviet society gains more access to automobiles and recreational vehicles.

Loss of hearing and sensation, respiratory related illness, silicosis, cancers, and cardiac disease were the biggest medical problems in this area. Each community sees between nine and twelve cardiac arrests in the pre-hospital setting annually, none are resuscitated. Ambulance personnel sometimes make the decision not to resuscitate some cardiac arrests. Generally, these are patients with long chronic illnesses, terminal illnesses, and those that appear to have had a long down time.

Physicians in this area also consider pediatric accidental poisoning to be a serious concern, mostly from prescription medications. In the six month period from January 1, 1991 through June 30, 1991, Sinegorye and Yagodnoye had each experienced six pediatric accidental poisonings.

Injury prevention programs are not institutionalized in the school system in this region. While there are some injury prevention public education programs for adults, injury prevention programs in the schools are optional and at the discretion of the teacher. Several physicians stated that they do not feel that existing injury prevention programs are very effective.

Each ambulance sees 20 to 30 incidents per month that are alcohol/drug related. Facilities in Yagodnoye have the ability to utilize both breathalyzer and blood alcohol measurements to determine blood alcohol levels, while facilities in Sinegorye can only detect the presence or absence of alcohol.

Most patients with alcohol or drug related problems are treated in outpatient polyclinics and the more difficult patients are transported to Magadan for treatment. One of the approaches being utilized to combat alcohol and drug related problems is the removal of salary benefits from the patient whose injury or illness is alcohol or drug related.

Also, during the first six months of 1991, these two communities each experienced six suicide attempts. Three were successful in Yagodnoye and two in Sinegorye. One of the more common methods of suicide is the ingestion of vinegar which is sold on the grocery shelf at seventy to seventy-five percent acid strength as opposed to five percent acid strength sold in the United States.

The group staying in Sinegorye was housed in the preventorium, a hotel style physical therapy clinic, where families can come for rest and physical therapy treatments. Families coming into the preventorium are evaluated by physicians and a course of treatment is prescribed. The average length of stay is twenty-one days. The same physical therapy processes observed in Pevek in 1990 were utilized here.<sup>3</sup>

In addition, the use of B complex vitamin injections for both adults and children was noted. Children are also seen in hospitals approximately ten times annually for wellness exams. The physical therapy processes included electrical current, ultrasound, infrared heat, high radio frequency, high intensity light, and a hot pack process made from a condensed oil that has the appearance of thick crude oil. The oil is poured onto trays, allowed to set up, then heated and applied to patients to treat arthritis and joint injuries. The electric current is used in a sort of electrophoresis process to apply medication locally by soaking a gauze in a medication, putting it on the intended spot with an electrode over the gauze, and putting an electrode on the opposite spot and passing a mild current through it. This process is also used to treat some gum diseases.



Helicopter recovery of victim during S&R exercise

There is also a large gymnasium used for physical fitness activities by families staying at the preventorium, as well as for prescribed physical therapy for patients recovering from injuries and illnesses such as strokes. The gym has a full time physical therapist on duty.

The preventorium as well as the hospitals and clinics in both Sinegorye and Yagodnoye utilize gas and heat sterilization techniques. Sterilization solutions are utilized to soak needles and syringes. High intensity quartz lights and chlorine bleach cleaning solutions are used for room sterilization.

The hospital in Yagodnoye appeared to be slightly larger and better equipped than the hospital in Sinegorye. Both hospitals had well equipped x-ray, ultrasound, and mammogram departments, much better than what was observed in Pevek in 1990. Both hospitals perform approximately 20 to 25 surgeries per month.

A major difference between these two hospitals seemed to be in the resuscitation departments. Sinegorye had one bed in the resuscitation department while the hospital in Yagodnoye had six beds and was much better equipped. In Yagodnoye, the group observed modern looking ventilators, both fixed and a battery operated



portable, a Bear Cub model 3100 pediatric ventilator, oxygen saturation monitor, and a combination cardiac monitor/defibrillator unit that was Soviet made and looked very modern.

There also was a biotechnology department in Yagodnoye to test and calibrate medical equipment. The resuscitation department in the Yagodnoye hospital had recently received American made Dobutamine kits, so Mo Hillstrand and Steve O'Connor provided inservice education on their use to the medical staff. These Soviet doctors had previously used Dopamine and Nitroglycerin drips but had not used Dobutamine. Ms. Hillstrand and Mr. O'Connor also provided training in spinal immobilization techniques using the spine board and the cervical collars.

The use of ultraviolet light to treat blood in septic shock patients also was observed in Yagodnoye. The procedure consisted of attaching an I.V. pump to the patient's I.V. line, pumping 1.0ml/Kg up to 150.0ml of blood from the patient's intravenous tubing across the ultraviolet light, then reversing the pump and pumping the blood back across the ultraviolet light and into the patient.

Medical training was consistent with what was observed in Pevek in 1990. Nurses take either a three year or a five year training program. They then can go on to other specialized areas of training beyond their basic schooling. Physicians complete five years of school for a basic MD and a year of residency for a total of six years. Students can enter medical school right out of secondary school without going through a college program first as medical students in the United States do. Secondary school ends upon completion of the tenth grade, although we were told that this will be extended to eleven years very soon.

After medical school and residency, physicians can go on to further schooling for specialty training that can run from one to four years beyond the initial six years.

Medical staff and personnel know of the American Heart Association, but they do not have training courses equivalent to Advanced Cardiac Life Support (ACLS) or Pediatric Advanced Life Support (PALS), although they do teach basic CPR courses, and they have some advanced cardiac skills. They do not have a course equivalent to Advanced Trauma Life Support (ATLS) either.

Soviet physicians have to relicense every five years by attending a training course that runs from one to four months and then pass an examination. The length of the course depends upon their specialty area and scope of practice. This course is not an all encompassing course, but rather the focus is on the specific area or areas of practice.

Nurses must retest for their license every three years and attend a one month course in Magadan just prior to testing.

## EMS IN ANADYR

Anadyr is a coastal community of approximately 16,000 people on the Bering Sea. It is a major shipping town and one of eight medical/administrative centers in the Chukotka region in the extreme northeastern section of the Russian Republic.

Anadyr has a 400 bed general hospital, a new hospital under construction, and a Native hospital in a village across the channel. Three smaller 30 to 50 bed clinics treat patients with tuberculosis, venereal disease, and those requiring physical therapy. It was reported that there are 150 doctors and 300 nurses in the Chukotka Region (approximately 46 doctors per 10,000 people.)

Like other communities, Anadyr has a dispatch center that takes requests for ambulance service and contacts the doctors and nurses on duty. Depending on the nature of the injury or illness, decisions are made regarding the type of equipment needed and the number of doctors and nurses to send (usually one or two doctors and one nurse).

Anadyr Hospital can provide treatment for most orthopedic injuries including some back injuries. Patients with severe head injuries or burns greater than 20% are reportedly sent to Moscow. Patients with cardiac problems are first treated with drugs and then sent to Moscow if surgery is needed. Neonatal and pediatric emergencies are sent to Khabarovsk. The most sophisticated equipment for diagnosing internal injuries are full-body X-ray and ultra-sound machines. There also is a C-Arm and Image Intensifier to assist in the setting of bone fractures.

Anadyr has three ambulance vehicles, though just one is set up and used for emergencies. The others are for general hospital use. All three vehicles have radio communication capabilities with the hospital.

The emergency ambulance is equipped with a first aid kit, EKG monitor, blood pressure cuff and stethoscope, intravenous supplies, ET tubes, ambubag, oxygen tank, and a stretcher. Many of the medical supplies like I.V. tubing, needles, and ambubags are scarce. A small battery pack defibrillator is borrowed from the hospital if needed. Reportedly, some immobilization equipment is available, though it wasn't actually seen during this visit.

From the time the Anadyr dispatch center is notified of an emergency, to the time the patient is in the hospital, is usually about 30 minutes.

If the injured or ill person lives in an outlying community, he or she first is evaluated by local doctors. If special treatment is needed, the patient is then transported to Anadyr by helicopter (or by boat from Kanchalan, an eight hour trip).

Reportedly, if the patient is 200 kilometers away (124 miles), a helicopter can respond and have the patient delivered to the hospital within roughly two hours. However, since the helicopters are part of the Aeroflot fleet, they have multiple uses and are not just used for

emergency response. Therefore, they do not routinely carry all the emergency medical equipment or supplies. It is the responsibility of the doctor on call to take what is needed.

The cost of transporting patients by helicopter comprises approximately 25 percent of the Anadyr medical budget.

In Anadyr, there are four doctors and eight nurses specially trained to respond to emergencies. These people share on-duty call. If the injury or illness requires the assistance of a specialist other than the doctor on call, the specialist may be called as well.

## FOLLOWUP EXCHANGE VISIT IN ALASKA

In late July, 1991, a group of Soviet doctors and other health officials from the Magadan/Chukotka Region visited Alaska as part of the continuing reciprocal exchanges. In this group was Dr. Sergei Trebuhovski, a surgeon from Magadan, who spent time in Fairbanks with Dr. William Wennen to learn more about American burn treatment techniques.

In October, 1991, another group of doctors from the Magadan/Chukotka Region visited Alaska, including: Dr. Alexander Goncharov, Director of the city of Magadan Health Department; Dr. Nikolai Dovger, Director of the city of Magadan Emergency Medical Service; and Dr. Alexander Dukochaev, Director of Medical Services in Anadyr. They were accompanied by Erika Avanova, an interpreter and teacher from Magadan. This group spent 10 days primarily touring emergency medical services and hospital facilities in Anchorage and Fairbanks. George Angus, Training Coordinator for Southern Region Emergency Medical Services Council, in Anchorage; Casie Williams, RN, a nurse educator at the Alaska Area Native Health Service, and Frank Nolan, MICP, of the Anchorage Fire Department, also provided them with a shortened American Heart Association (AHA) Advanced Cardiac Life Support class. After taking this class, these Soviet doctors stated that they already knew most of the dysrhythmia recognition and drug therapy recommended by the AHA, but they were most impressed with the ACLS teaching methods. They were especially impressed with the use of manikins to perform practice mega-codes.

There also were some discussions about having a few doctors from the Magadan/Chukotka Region participate in the Annual Alaska Emergency Medical Services

Symposium in Anchorage in early November, 1991, but transportation from Magadan was not available. Possibly this could be arranged for the State EMS Symposium in November, 1992.

## DISCUSSION

So far, this EMS exchange project has been based on personal observations and discussions between Alaskan and Soviet physicians and other health officials. In the future, it will be important to compare hard data on numbers and types of emergency patients, and outcomes, in order to better determine specific project areas to work on. Data from the Alaska Trauma Registry could be very helpful, if similar data can be provided from the Magadan Regional Hospital. Also, data from the city of Magadan Emergency Medical Service on out-of-hospital cardiac arrest resuscitation rates will be compared with data from the Anchorage Fire Department EMS Division.

Below is a brief discussion about progress to date on each of the ten EMS objectives listed in the Alaska/Magadan Medical Exchange Agreement.

### Objectives #1 and #2

- Conduct emergency medical evacuation and tests of systems between Alaska and the Magadan Region and continue joint meetings between EMS and Search and Rescue.
- Conduct a joint Search and Rescue exercise between

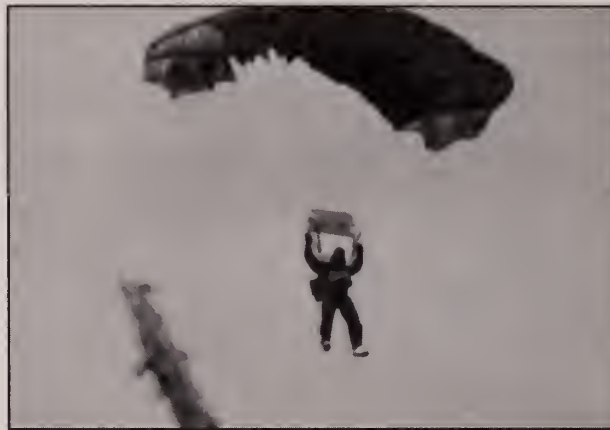
Alaska and the Magadan Region.

Through efforts of the Bering EMS Committee, co-chaired by the Director of the UAA Institute for Circumpolar Health Studies and the Chief of the EMS Section, Alaska Department of Health and Social Services, a variety of issues have been studied regarding cross-border medevacs and coordinating search and rescue missions near border areas.

The two air ambulance services, provided by Providence and Humana Hospitals in Anchorage, are proceeding with the application process to the Federal Aviation Administration (FAA) to be authorized to fly medevac missions between Alaska and the Soviet Far East.

In addition, a one page medevac report form has been developed in English on one side and in Russian on the other, to help facilitate exchange of essential patient care information on patients who are medevaced across the border.

The Chief of Staff of the U.S. Air Force, General



Arrival of doctor to S&R exercise



McPeak, has reached agreement with Soviet military officials for a series of exchange visits, and for a joint search and rescue exercise to be held in the Bering Strait area near Big and Little Diomed Islands, some time in August, 1992. Under this proposal, a group of Soviet Air Force officials will visit Alaska in April, 1992 and a U.S. Air Force delegation will visit the Soviet Union in June, 1992.

The Search and Rescue exercise will be directed by the U.S. Coast Guard Rescue Coordination Center in Juneau, with the 11th Air Force, based at Elmendorf AFB in Anchorage, and the 210th Alaska Air National Guard Rescue and Recovery Squadron based at Kulis ANG Base in Anchorage, providing resources and personnel to support the Coast Guard's mission. Additionally, the U.S. Coast Guard already has established contacts with Soviet search and rescue resources under the authority of the Soviet Rescue Coordination Center based in Vladivostok. The U.S. Coast Guard has been designated by the U.S. Department of State as the lead agency for joint Soviet-American Bering Sea/Bering Strait search and rescue operations. Details on locations and specific scenarios will be worked out during the exchange visits.

If the FAA authorizes the air ambulance services based in Anchorage to do medevacs to or from the Soviet Far East, and if the Coast Guard/Air Force search and rescue exercise takes place, objectives one and two will largely have been accomplished. However, efforts should be made to include civilian search and rescue resources on both sides of the border, since federal resources generally are based hundreds of miles from this region, which undoubtedly would have an adverse impact on response times.

### **Objective #3**

- Assist in developing instructors skilled in Advanced Cardiac Life Support, Advanced Trauma Life Support, and Pediatric Advanced Life Support.

After providing some of the Soviet physicians a condensed Advanced Cardiac Life Support (ACLS) course, it appears that they already have many of these skills. It may be helpful, however, to assist them in obtaining training manikins and other equipment so they can set up mock cardiac arrest codes for refresher training classes.

We have not yet explored the potential value of Pediatric Advanced Life Support (PALS) classes, or Advanced Trauma Life Support (ATLS) classes.

### **Objective #4**

- Assist in upgrading medical equipment and supplies for ambulance services, air medical teams, and hospitals.

There has been some progress in assisting ambulance services and hospitals in the Magadan/Chukotka Region to upgrade equipment and supplies, but much more is needed.

### **Objective #5**

- Assist in training and equipping firefighters at fire stations in Magadan with automated external defibrillators so response times to cardiac arrest patients could be reduced.

Although the original plan was to equip firefighters at fire stations in Magadan with automated external defibrillators (AED's) so response times to cardiac arrest patients could be reduced, this proposal was not accepted by city of Magadan health officials. City officials are not comfortable with the idea of firefighters doing cardiac defibrillation as this is unheard of in the USSR and of a completely different department. Therefore, three donated AED's were placed on physician staffed ambulances, two based in suburban areas near Magadan, and one placed at a settlement near the main airport, about 50 kilometers from Magadan. Since there already were two advanced life support ambulances equipped with cardiac monitor/defibrillators and medications based in Magadan, there now are five ambulances equipped with defibrillators in the Magadan area. Over the next two years, data from the city of Magadan will be compared with data from Anchorage on out-of-hospital cardiac arrest resuscitation rates.

### **Objective #6**

- Assist in training physicians and surgeons in burn care and development of a small burn unit at the Magadan Regional Hospital.

Dr. William Wennen has made significant progress toward helping the Magadan Regional Hospital establish modern burn treatment capabilities. However, much more needs to be done in this area, including additional training for medical providers on ambulances, in clinics, and in hospitals throughout the Magadan/Chukotka Region, as well as needs for additional medical equipment and supplies. However, since the emergency evacuation to the U.S. of the boy from Magadan in September 1990, they have invested in an adult and pediatric burn bed setup and various other supplies to treat burn victims in the Region.

### **Objective #7**

- Provide air medical training for air medical crews.

To date, there has been no progress toward meeting this objective. A two day medevac escort course could be provided to a group of Soviet physicians during a future exchange visit.

### **Objective #8**

- Assist in development of a multiple casualty disaster response plan for the Magadan/Chukotka Region using the Incident Command System (ICS) model for disaster response.

There has been no progress toward accomplishing this objective. The recent bus crash in the Magadan Region provides evidence that multiple casualty disaster planning should be discussed during future exchanges.

## Objectives #9 & #10

- Collect hospital data in the Magadan/Chukotka Region, comparable to data items in the Alaska Trauma Register, to enable comparative studies of causes, severity, patient care, and outcomes of trauma patients.
- Study the epidemiology of injuries and develop and evaluate injury prevention programs.

Minor progress has been made on these objectives so far. Comparing data on causes and severity of traumatic injuries, and outcomes of patients will enable valid judgments to be made about the magnitude of the problem and potential solutions. Suggestions then can be offered for preventing some of these injuries, as well as improved treatment methods. It does appear that traumatic injury patients in the Magadan/Chukotka Region can get to trauma surgery quicker, on average, than in Alaska, primarily because traumatologists and anesthesiologists are based at the major hospitals 24 hours a day, rather than on call as is the case in Alaska. By compiling trauma registry data it will be possible to compare outcomes of patients with similar injuries.

## RECOMMENDATIONS

It is recommended that education and training courses in modern burn care be instituted at both the most basic and most advanced levels of care, including the medical staff at the Magadan Regional Hospital. The regional hospital is large enough and has sufficient medical talent and expertise that, with a little training, some upgrade of technology, and minor alterations of facilities, it should be able to handle virtually any burn in the Magadan region.

An emergency care provider's course in burn care, such as the Advanced Burn Life Support (ABLS) course, should be extended to all ambulance attendants, and to all outlying town and village health care providers, including physicians and nurses.

Adequate fluids should be made available and kept fresh on a stock rotation basis. Additional training in monitoring of laboratory values, general vital signs, and a possible need for escharotomies in the field is also most important. The principles of stabilization should be taught to all health care providers in the outlying communities, and the criteria for transport to the regional center should be widely distributed.

It would be advantageous to have community health care providers trained in mass casualty management.

Better communications need to be established between all communities, and the regional medical center should be notified immediately upon receipt of a major burn or a burn involving one or more of the Advanced Burn Life Support course criteria for transport. Management of the burn patient in transit needs to be extended to transport personnel, including management and prevention of hypothermia.

Minor structural modifications to the Magadan Regional Hospital could be accomplished quite easily by setting aside

an area with positive air flow, controlled access, and burn wound hygiene facilities.

An update of laboratory facilities is next in order. This can be accomplished either by automation or by more updated manually operated equipment and training for laboratory personnel.

Improved dermatomes also would be most helpful in burn wound care. The principles of early tangential excision and grafting should be taught to the Soviet traumatologists. This may be best accomplished in two ways: 1) American burn surgeons could travel to the Soviet Union to assist with their patients, and 2) Soviet surgeons could visit the United States to observe similar care in burn centers here.

More accessible use of topical antibacterials is of vital importance, (e.g. Silvadene). Intravenous antibiotics are quite sparse in the Soviet Union and of very limited quantity and types. It is not possible to get a handle on resistant bacteria since it appears that most critically ill burn patients die in the early phases of burn shock rather than late sepsis.

Burn rehabilitation services should be established, including occupational therapy, physical therapy, and availability of Jobst pressure garments for control of hypertrophic scarring. This could provide an ideal industry for the Soviet Union requiring only some training, basic sewing equipment, and acquisition of elasticized cloth. Soviet physical therapists and occupational therapists should visit the United States to view techniques used here for the early immobilization, splinting, and rehabilitation of burn patients.

The initial medical exchanges between the Soviet Union and the United States have been fruitful for both sides, and it is heartily recommended that they continue but on a somewhat more expanded and in-depth basis. However, legal issues in the United States make it very difficult for a Soviet surgeon to get hands-on experience here. Consequently, site visits of Soviet traumatologists/surgeons to the United States, followed by some in-depth and perhaps more "on-call" visits to the Soviet Union by American burn surgeons to assist and train medical care providers when serious burn cases occur there, would be beneficial.

The acute need, as these observers see it, is for knowledge and training and the availability of current medical literature. Modern technology can come with time and, at this point, only a moderate amount of increase in technology is really necessary to deliver optimum burn wound care.

The greatest emphasis at this point for expenditure of funds would be for training and updating of burn wound management knowledge.

Training manikins and other equipment should be made available to provide realistic mock cardiac arrest codes for refresher training of physicians on ambulances and in clinics and hospitals. EMS providers in Alaska could assist in developing a cadre of ACLS instructors for the Magadan/Chukotka Region.

A Pediatric Advanced Life Support (PALS) course and



Advanced Trauma Life Support (ATLS) class should be provided to a group of Soviet physicians so they can determine if these courses would be useful to them. If so, Alaskan EMS providers could help train instructors in these courses as well.

Some of the basic prehospital stabilization skills common in the United States, such as traction splinting and spinal immobilization techniques, should be taught to ambulance crews throughout the Magadan/Chukotka Region, and efforts made to equip all ambulances with the necessary equipment.

Efforts also should be continued to help the Soviets obtain other needed medical equipment and supplies, such as disposable syringes, antibiotics, etc.

As specific EMS courses are agreed upon as being useful to the Soviets, the UAA Institute for Circumpolar Health Studies and the Magadan Regional Health Department should undertake projects to translate appropriate course materials into Russian. It may be possible to offset the costs of translating these materials by selling copies to physicians in other parts of the Soviet Union.

Due partly to the isolation of medical providers in the Soviet Union from those in the United States and other western countries for so many years, many different techniques of medical care and physical therapy have been developed. Such Soviet techniques as "cleaning blood" by lasers; "detoxifying" blood by circulating it through charcoal filters; and such physical therapy processes as using electrical currents, ultrasound, infrared heat, high radio frequency, and high intensity light; and the use of a hot pack process using heated condensed oil to treat arthritis and joint injuries, should be carefully studied by both American and Soviet researchers to determine their efficacy. American orthopedists already have learned that the Soviet Ilizarov external fixation technique for healing and even lengthening broken bones is a useful new treatment modality for some patients. It is quite possible that both Soviet and American medical care providers can learn a great deal from each other over the next several years.

Although traumatic injuries in the Soviet Far East apparently are not as frequent as in Alaska yet, it seems inevitable that as more cars become available in Soviet society, motor vehicle related injuries will become more common. Therefore, now is a good time for the Soviets to begin focusing greater attention on traffic safety programs. All vehicles should be equipped with safety belts, and people should be required to use them. Greater emphasis should be placed on driver training and traffic law enforcement. Pedestrians should be given the right-of-way while in crosswalks and drivers should be required to stop for them.

Alaskan health officials could provide workshops to the Soviets on modern techniques of injury prevention and control. Wherever possible, preventing injuries from occurring, or reducing the severity of injuries, is far better

than having to treat those injuries afterward.

Finally, it is recommended that representatives from the Aeroflot Search and Rescue teams participate in, or observe, a U.S. Coast Guard training exercise to compare rescue techniques. For example, the U.S. Coast Guard does not use parachutes to drop rescuers from helicopters, primarily for safety reasons. These and other related issues should be discussed between the two organizations.

## CONCLUSION

Considerable progress already has been made toward meeting the objectives listed in the Alaska/Magadan Medical Exchange Agreement. With continued commitment on both sides, it is quite possible that all objectives can be met within the next two or three years.

After two exchange visits by Alaskan EMS officials to the Soviet Far East, it can be stated that there is, indeed, an EMS system in place already. Ambulance services exist in most communities, with reasonably well trained personnel, dispatch centers, and radio communications. A vast array of clinics and hospitals exist throughout the region and a referral system is in place for patients requiring more specialized care. Many things observed were quite different from Alaska; however, new knowledge of other systems is helpful in assessing alternative methods that may not have been considered here. They have a similar rural environment and EMS system which is apparently evolving in a fashion similar to Alaska.

With a little more emphasis on specialized training, and further upgrades in equipment and supplies, the Magadan/Chukotka Region could have an EMS system that compares favorably with EMS systems almost anywhere in the world.

All of the Soviet medical care personnel, with whom these observers have come in contact, have appeared to be highly committed to the best interests of their patients. They are very dedicated, intelligent, and talented, and provide a remarkably high quality of care in spite of their limited supplies and modern technology.

We look forward to continuing our mutual exchange projects with our Soviet colleagues.

## REFERENCES

1. Emergency Medical Services in Magadan/Chukotka, USSR Compared to EMS in Alaska, USA; Alaska Medicine, January/March, 1991.
2. Ibid.
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## ACKNOWLEDGEMENTS

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# Report of the Mental Health Team 1991 Alaska/Magadan Medical Expedition and Exchange

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## ABSTRACT

This report provides a brief overview of the July, 1991 mental health team visit to the Magadan and Chukotka regions. A previous trip to the region was made by a mental health team in the summer of 1990.<sup>1</sup> The sites covered were Anadyr, Magadan, Yagodnoye and Sinegorye. There are several follow-up activities and projects currently underway, such as a Fetal Alcohol Syndrome project, alcohol treatment comparisons, and Native Elder exchanges. The Soviet economy has had a marked effect in the type of treatments available in hospitals and clinics for all the types of physical and mental health problems. Because of the openness and cooperation of the Soviet medical personnel, much data and information has been gathered and will be used to determine the areas to be addressed for joint study and application.

## INTRODUCTION

Following the 1990 visit, a Medical Work Plan for 1991-1992 in Mental Health was agreed on by the Ministry of Health in Magadan, the Institute for Circumpolar Health Studies, and the State of Alaska Department of Health and Social Services.<sup>2</sup>

Progress was made on each of the activities in the work plan, although rather slowly due to the need for frequent revision and the time it takes to implement projects.

## WORKPLAN

The Work Plan includes gathering baseline information for comparison with Alaska on such areas as: the organization of Soviet psychiatry/narcology services in the Magadan and Chukotka Regions; diagnostic and treatment methods; and demographic and epidemiologic

trends relevant to these areas.

Also included, is the development of co-authored materials for publication and presentation as well as the translation of Russian articles and texts. Fetal Alcohol Syndrome has been identified as a focal point for a specific collaborative project. Family health and learning disabilities are also being considered for continued exchange.

From the several mental health team visits, we have assembled a library of videotapes, and extensive work notes covering many fascinating aspects of psychiatry and narcology in the Soviet Far East. Soviet narcologists and psychiatrists have also sent tapes describing their system and methods, and tapes which describe the Alaska system that were made by Soviet visitors on professional exchange visits to Alaska.

These taped interviews with program managers describe the overall service system. These include: interviews with epidemiologists explaining various statistical charts and trends, demonstration of diagnostic assessment procedures and patient workups documenting treatment methods such as antabuse implants, auricular electro-acupuncture for alcohol detoxification, aura-reading, non-contact massage, herbal treatments, different forms of hypnosis, descriptions by psychopharmacologists of their approaches, forensic evaluations, and others.

Numerous materials are in various stages of translation from Russian to English. These include professional textbooks summarizing psychiatric or narcological practice, professional journals in psychiatry and narcology, review articles on special topics, books describing herbal therapies, acupuncture, forensic codes, policies and procedures, training materials for "feldshers" (mid-level practitioners), instructions for use of various equipment, sections from the Russian equivalent to the Physicians Drug Reference, and many others.

## SIMILARITIES

There are a number of similarities between Alaska and the Soviet Far East: similar arctic environments,

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approximately the same latitude, and geographic closeness. They also share other characteristics such as: remote, scattered populations, with service delivery problems due to transportation and communication difficulties and high costs; ecologically fragile environments at high risk for pollution; partial subsistence economy; exports of natural resources; government work related to strategic military importance of the location.

## LIFESTYLE CHANGES

Both Alaska and the Soviet Far East have indigenous populations that have been exposed to rapid changes as contact with dominant cultures has increased.

Social, family, and individual health status have been affected by rapid changes, and shifts in political, educational, religious, and legal conditions, changing family structure, individuals facing marginalization and having to learn radically different ways of adapting.

Changes in population dynamics, birth and death rates, life expectancy, and prevalence of certain diseases, are also found. The available information on health status indicators suggests that life expectancy and rates of selected behavioral health problems are considerably worse than in Alaska.

There are many concerns associated with the impacts of these changes that are not directly mental health when narrowly conceived, but appear to have major implications in shaping desires for local autonomy, sense of powerlessness and lack of control, and a sensed need to preserve and strengthen cultural identity.<sup>3</sup>

## ECONOMICS

The Soviets are concerned about the Marine Mammal Protection Act, oil drilling in the Chukchi Sea, a variety of pollution and environmental protection issues, hunting and fishing rights, fur imports, educational curricula, travel restrictions, import-export barriers, communication and transportation problems, the need for exchanges of Elders, reindeer husbandry issues, exploitation of non-renewable resources, problems in preserving local language, tourism and a variety of health issues such as search and rescue, and methods of chronic rehabilitation and aftercare in locations with scarce professional resources.

Added to these types of concerns, which are familiar to Alaskans, are current problems with the economy, resulting in sky-rocketing inflation, severe shortages of food and other basics and political unrest. Currently, these are not as severe in the Soviet Far East as in some other parts of the Soviet Union. It is difficult to determine the proper scope of mental health projects under these conditions.

## DATA COLLECTION

A comparison of health expenditures, (Table 1) reveals that health spending in the USSR is considerably less than in the U.S. The Soviets are spending about 3.4% GNP on health, compared to 11.4% in the U.S. On a per capita basis, in figures converted to U.S. dollars, the Soviets were spending (before the latest inflation, which is reportedly devaluing the currency at the rate of 3% per week), about \$238 per person per year, compared to \$1,987 per capita in the U.S.

There is lack of "consumer input" into program development, and a lack of cost containment measures used to get the most from the scarce dollars.

Extensive data collected by the team describes specific trends and patterns for the Magadan/Chukotka region with respect to health status, expenditures, alcohol-related health problems, as well as general psychiatric mortality and morbidity. This is still being analyzed, but appears to be similar to the national data in most respects.

As reviewed elsewhere<sup>4</sup>, poor and deteriorating health status indicators are of nationwide concern. As can be seen in Table 1, life expectancy at birth in the USSR is 5+ years lower than in the United States.

Table 2 gives information on life expectancy of the population at birth for the total population, and for the Native population. Life expectancy for the total population in the Magadan region is about four years lower than for the USSR, and men have a life expectancy about 10 years lower than women.

There appear to be some major differences in the health status of the indigenous Native population compared to the non-Native Soviet population.<sup>5</sup> The Native population has dramatically lower life expectancies than non-Natives in the region and people die 18 to 25 years sooner than USSR averages. The exact causes for this discrepancy need to be determined, with programs targeted at correctable problems contributing to the lower life expectancy.

Comparison with U.S. and Alaska Native figures shows that improvement should be possible. Life expectancy rates for Alaska Natives and American Indians were lower (51 years) in 1940, but have increased over the subsequent 40 years to close to 71.1 years.<sup>6</sup> Maternal and infant mortality rates are considerably higher than comparable rates in the U.S. Death rates from "behavioral" problems such as accidents, injuries, poisoning, suicide, and self-inflicted injury are also higher in the U.S.S.R. Reductions in these areas as well as infectious diseases and lifestyle related problems such as circulatory diseases, ischemic heart disease, and cerebrovascular disease are needed. Reductions in infant mortality, infectious disease, and lifestyle related problems such as circulatory diseases, ischemic heart diseases, cerebrovascular dis-

Table 1. Health Indicators and Characteristics, Soviet Union and United States, for 1986 except where indicated

<u>CHARACTERISTICS</u>	<u>USSR</u>	<u>US</u>
<b>POPULATION:</b>		
Total Population (millions)	280	241
Age distribution		
Percentage under age 15	25%	22%
Percentage 65 and over	9	12
Percentage female	53	50
Percentage rural (1980)	37	26
<b>HEALTH STATUS</b>		
Life expectancy at birth total (years)	69.8	74.8
Male	64.2	71.3
Female	73.3	78.3
Native (Soviet Far East, versus Alaska Native)		
Native Male	42.5(1978)	67.1(1980)
Native Female	46.7(1978)	75.1(1980)
Life expectancy at age 65		
Total (years)	15.1	16.8
Male	12.3	14.7
Female	15.8	18.6
Infant mortality (deaths per 1,000 live births)		
Maternal mortality (deaths per 1,000 live births)	25.1	10.4
	47.7	7.2
Deaths per 100,000 (age-standardized, all causes, total)		
Male	1,160	821
Female	1,565	1,059
	916	642
Death rates due to accidents, injuries, and poisoning (age-standardized deaths per 100,000, E47-E56)		
	105	60
Suicide death rates and inflicted injury (E84) per 100,000-Total		
Male	21	12
Female	37	20
	9	5
<b>HEALTH RESOURCES:</b>		
Number of hospitals (1980)	23,100	6,229
Resources per 100,000 of population		
Hospital beds	1,307	410
Physicians	429	225
Nurses	606	661
Midwives	114	1
Hospital admission rates	1.9 times higher than US rates	
Days of care in hospital per 100,000 population	3.4 times higher than US rates	



Table 1 continued

HEALTH FINANCING:

Total medical expenditures (1979) in billions (US dollar equivalents in 1986)	\$27.9	\$212
Percent of medical expenditures paid by government (1979)	92%	43%
Percent of GNP for health (1989)	3.4%	11.4%
Percent of total health budget spent on inpatient care	78-79%	45-50%
Percent of capital outlay going to health equipment	<18%	45-50%
Legal earnings of medical personnel	70% of average salaries for USSR non-farm sector workers	much higher

Sources: World Health Organization, European Regional Office, Health for All Database: Health, United States, 1989; A.V. Telyukov, "Soviet Health Data" (staff paper, Institute for Economic Studies, Moscow, 1990), plus References from Telyukov cited in References section (A Concept of Health Financing Reform in the Soviet Union, and Soviet Health Care From Two Perspectives).

Table 2. Life expectancy of the population of the Magadan Region for 1978-1979, compared to Alaska Native and US rates

<u>Location</u>	<u>Life expectancy in years at birth</u>			
	<u>Total Population</u>		<u>Native Population</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
USSR	62.5	72.6	-	-
MAGADAN	58.0	68.1	42.5	46.7
U.S. (1980 for US figures, 1979 to 1981 for Alaska Native figures)	70.0	77.5	60.0	69.8

SOURCES: US Total from National Center for Health Statistics Monthly Vital Statistics Report, 1982. Alaska Native Health Rates from "Trends in Indian Health 1990", a US DHHS publication cited in references. USSR and Magadan rates from P. Alexander citation in references.

eases, injury and poisoning, suicide and self-inflicted injury are needed. As shown in Table 3, these are running at rates 1.4 to 1.8 times higher than comparable U.S. rates for most of these latter conditions; for Soviet Far East Natives, rates would be even higher for the same conditions.

## ALCOHOL ISSUES

Psychiatrists and narcologists appear to be in very short supply. Of the 2600 physicians in the Magadan region, there are only 40 narcologists and a slightly higher number of psychiatrists.

Video documentation was obtained on alcohol treatment facilities, interviews with patients, and treatment methods. Interviews with narcologists from Anadyr and Magadan on a variety of alcohol program issues are currently being compiled.<sup>7</sup>

As in Alaska, there is a relatively young population, and many "high risk" children being raised in heavy drinking environments. Table 4 presents comparisons on alcohol abuse and its consequences in the USSR and U.S.

A variety of indicators of alcohol-related problems (Table 4) are 2-4 times higher in the USSR than in the U.S. Annual consumption of alcohol is about 2.5 times higher in the USSR. Alcoholism and "alcoholic psychosis" rates are significantly higher in the Magadan/Chukotka Regions than in most other regions of the Soviet Union with dramatic increases over the past 15 years from 20/10,000 in 1966-70 to 150/10,000 in 1981-85.

## RESOURCES

The situation in mental health and narcology parallels the overall health system. The amount of rubles spent on equipment is low, preventing the physicians from being as efficient as they might be with better supplies and more technology.

In dealing with health and behavioral health problems, Table 5 shows that doctors, mid-level practitioners (feldshers) and hospital beds per 10,000, to be more available in the Soviet Far East than for the Russian Republic as a whole. This is especially notable for the mid-level practitioners. There is a relatively high number of physicians, but unlike the U.S., it is one of the lowest paying professions.

Regions with a high percentage of Native population appear to be doing better in terms of resources such as doctors per 10,000 than other parts of the Russian Republic, and seem to have equivalent resources in the Magadan-Chukotka region to the non-Natives.

The system is primarily facility-based, having a large number of hospital beds. It is known from other available data that there are long average lengths of stay, high admission rates, and a large percent of the overall health

budget is spent on inpatient care.

This is very difficult to evaluate, however, since prevalence of problems, cost factors, transportation, and a variety of other factors may influence access to these resources.

## SOVIET TREATMENT METHODS

Currently, only the most severe mental cases receive inpatient treatment. Programs at present appear to be focused on individuals with problems, with the main emphasis being on later stage and chronic adult problems. One treatment consists of large doses of intravenous Lithium and Haldol combinations.

We had a strong impression of a service system with a warm and caring staff, but with more severe problems of lack of equipment, supplies, and service capabilities than was apparent from the quantitative health statistics.

The Soviets might benefit from exposure to our treatment of depression using such methods as the newer antidepressants, outpatient clinics, family and marital counseling, and a variety of other techniques for milder cases.

There are also translations being made of key reference articles and professional books reviewing details of diagnostic work-up procedures, treatment strategies and protocols.

## MAGADAN FETAL ALCOHOL PROJECT

As in Alaska, the rate of FAS is thought to be high, especially among the Native population. Standard types of assessments and interventions as used in the U.S. do not appear to be available. Fetal Alcohol Syndrome would be, an ideal "indicator condition" to work on through collaborative projects. The Soviets are also interested in a joint project in this area.

The potential exists to use this project to start work on other programs targeted at mothers and young children. Health promotion and prevention strategies targeted at women at high risk for FAS or other forms of high risk pregnancy seems to be less than in the U.S.

While the team was in Magadan, a number of children with possible FAS were seen at the "Internat", an institution for mentally and/or physically handicapped children. An FAS project will assess a sample of children at the Internat for FAS. If exams indicate a large number of possible FAS, it may be possible to schedule a clinic with a dysmorphologist to determine if the condition is definitely present, and individualized treatment needs can be discussed. Children residing at the facility who have other disabilities could also receive assessments and/or rehabilitation methods could be demonstrated.

There is an extensive body of information being collected on FAS in Alaska, plus an array of prevention and



TABLE 3. Age-standardized mortality rates from selected causes, Soviet Union and United States, 1988

	Deaths per 100,000		
	<u>Soviet Union</u>	<u>United States</u>	<u>Soviet/U.S. ratio</u>
All causes, total	1,160	821	1.4
Male	1,565	1,059	1.5
Female	916	642	1.4
Infectious diseases (01-07)	20	12	1.7
Male	29	14	2.1
Female	13	10	1.3
Malignant neoplasms (06-14)	185	195	0.9
Male	280	246	1.2
Female	132	181	0.7
Circulatory diseases (26-30)	673	357	1.9
Male	831	456	1.8
Female	584	183	2.1
Ischemic heart (27)	360	188	1.9
Male	481	255	1.9
Female	294	138	2.1
Cerebrovascular (29)	229	54	4.2
Male	254	58	4.4
Female	214	50	4.3
Respiratory diseases (31-32)	85	68	1.3
Male	137	95	1.4
Female	60	51	1.2
Digestive diseases (33-34)	33	30	1.1
Male	47	38	1.2
Female	24	24	1.0
Injury and poisoning (E47-E56)	105	60	1.8
Male	167	90	1.9
Female	52	32	1.6
Motor vehicle accidents (E471)	18	19	0.9
Male	30	27	1.1
Female	8	11	0.7
Suicide and inflicted injury (E84)	21	12	1.8
Male	37	20	1.9
Female	9	5	1.8

Sources: World Health Organization, *World Health Statistics Annual*, 1990 (Geneva WHO, 1991), 380-385.  
 Note: Age-standardized death rates per 100,000 using the European population standard ICD-9 codes are in parentheses.

treatment methods which appear promising.<sup>6,8</sup> Sharing our progress and pitfalls in this area could be beneficial to the Soviets because of our similarities.

Surveying the general public (Magadan) will help determine their level of knowledge about measures that can be taken to prevent the condition. Public information questionnaires and assessment tools similar to those used for Alaska Natives have already been translated into Russian for this project.

## WORK PLAN RECOMMENDATIONS

Practical projects, using existing relatively low cost technology, could be carried out that would help some children, and potentially save money in later rehabilitation costs as these children get older.

Research has begun on issues such as deinstitutionalization, normalization, and community care, and how they might be implemented in this setting. These range from a possible prematernal home for pregnant substance abusers, similar to one recently started in Anchorage by Southcentral Foundation in collaboration with Alaska Native Health Service, the State and CDC, to projects addressing the special needs of learning disabled and mentally handicapped children.

Information can be gathered from the Soviets about treatments they are using for these children which are not used in the U.S. These include the use of medicines in the class of drugs known as "nontropics" such as piracetan for learning and memory problems, as well as information on cultural factors associated with child-rearing that would be of interest.

Interesting collaborative projects addressing issues such as fetal alcohol syndrome, learning disabilities other children's health issues, demographic profiles, and alcoholism and suicidal behavior can be pursued in the future.

Students from Magadan can continue to work with the Alaska team while they are in Alaska on student exchange programs, and there has been continuing discussion of the visiting professor positions. Alaska and Soviet colleagues are making intensive efforts to learn each others language so that visiting professor positions would be more feasible.

Bilateral Native community development efforts are another priority. Discussion is necessary to set priorities for collaborative applied clinical research projects, service delivery models, demonstrations, and training. Local people need to be trained in program methodologies if the new policies of glasnost are to be implemented.

New models utilizing primary prevention, health promotion approaches, and community "ownership" of problems could be developed. These models can address the "behavioral lifestyle" health problems associated with drinking, smoking, inadequate nutrition, and lack of

exercise. Approaches could be adapted for different cultural groups, rural and urban settings.

Supplies and materials such as Russian language versions of Alcoholics Anonymous materials, a portable breathalyzer unit, and video editing equipment plus cameras were donated to the Soviets by a member of the Alaska team. Information on ways that surplus hospital equipment (no longer needed in Alaska facilities but still having useful life) might be accessed was provided, and is an ongoing need. Also, there was information on ways that lab equipment such as alcohol and drug blood and urine tox screen equipment might best be purchased by the Soviets. There are requests from the Soviets for assistance in obtaining equipment ranging from computers to analyze data, to computerized electro-acupuncture devices and other highly specialized apparatus.

Translated publications of Soviet material, describing various aspects of their systems, should be submitted to U.S. publications so American colleagues can be exposed to current treatment methods and joint projects.

One member of the mental health team, Dr. Ed Deaux, has authored findings from a project carried out to assess locus of control issues in children from the region with the idea of comparing the findings with a sample of Alaskan children.<sup>9</sup> This separate report will be published at a later date.

Readers interested in more detail on various topics can consult the references, the Institute for Circumpolar Health Studies, or the team members directly, since much data is continuing to be compiled and is yet unpublished.

## YAGADNOYE DISTRICT TREATMENT STUDY

Sinegorye, population 13,000, is the newest town in this district and arose 20 years ago when construction began on the hydroelectric power plant that gives the settlement its purpose. All services are in support of the power plant or its workers. Although there is access to Sinegorye by road and air, a sense of isolation is palpable due to geography and the conditions under which these people live. Many were sent to settlements such as this for political reasons and to impose additional hardship. This region, along with Siberia, is infamous for exiled dissidents and the Stalinist gulags.

Located here is a "preventorium", a type of a health spa, for the town's workers and their families. This facility accommodates 150 people, and often an entire family stays when a course of treatment or referral is prescribed for one family member. Treatment courses vary, but the average length of stay is about 21 days.

The cost for a family is 1541 rubles and a sliding fee scale allows the typical family to pay 50 rubles per person. The trade union pays the remainder. About 10% of people do not pay any fee.

The facility itself is three stories tall with an overall



**Table 4. Alcohol abuse and its consequences in the USSR to USA: A comparison of estimates (70's and 80's) (years and absolute numbers in parentheses)**

	<u>USSR</u> (250 Million, 1973; 277 Million, 1984)	<u>USA</u> (210 Million 1973; 237 Million, 1984)
Annual consumption of alcohol per capita per person over age 15 (1984-1985)	25.6 liters of absolute alcohol	10.16-10.3 liters of absolute alcohol
Alcohol taxes: Federal, State, City (USA, 1983; USSR, 1985)	\$67.5 billion	\$12.2 billion
Average proportions of expenditures on alcohol in GNP, per capita (1979, 1984)	9.6-11.1 %	2.3 %
Prevalence of heavy drinking among the population aged 15 or older (USSR, 1973, 1984) and 18 or older (USA, 1979, 1987)	23.8-34.3%	7-13%
Prevalence of "classic" alcoholism (dependence) among the population aged 21 and older (1970's-1980's)	11.1% (1970's) 17.2% (1980's)	2-3%
Alcohol-related annual deaths (1970's to 1980's)	1 million	60,000 to 200,000
Annual alcohol-related injuries per 100,000 population (1973-1974)	8,800	3,500
Annual alcohol-related accidental fatalities per 100,000 population (1973-1974)	65.1	16.4
Alcohol-related suicides (1977), average percentages	52% (32,000)	34-50% (10,000-15,000)
Annual mortality due to acute intoxication per 100,000 population (1970's-1980's)	50	0.18
Alcohol-related crimes (average percentages)	55-90 (79)%	30-40%
Arrests for drunkenness (1979). Percentage among the population and numbers	8% (20 million)	0.4% (0.9 million)
Alcohol-related murder (arrests per 100,000 population)	8.0	4.6
Alcohol-related assaults (arrests per 100,000 population)	632	47
Alcohol-related rape (arrests per 100,000 population)	13.6	3.7
Alcohol-related wife-beating (1970's average annual rates)	85% (9.4 million)	45% (0.9 million)
Alcohol-related annual economic losses in 1970's	\$208.7 billion (34.2% of 1974 GNP)	\$43 billion (2.9% of 1974 GNP)
Alcohol-related annual economic losses in 1980	\$323.8 billion (36.9% of 1984 GNP)	\$89.5-140 billion (2.3-3.7% of 1984 GNP)

Source: Segal, B., *The Drunken Society. Alcohol Abuse and Alcoholism in the Soviet Union. A Comparative Study.* Hippocrene Books, New York, pp. 460-461, 1990.

Table 5. Selected Health resources in Magadan and Chukotka compared to Russian Republic, for 1988

<u>Resource</u>	<u>Location</u>	<u>For total population</u>	<u>For regions where main residents are Natives</u>
Number of doctors of all specialties per 10,000 population	Russian Republic	47.4	35.3
	Magadan Oblast	49.0	50.1
	Chukotka	48.4	48.4
Number of mid-level practitioners per 10,000	Russian Republic	124.9	111.6
	Magadan Oblast	159.8	134.9
	Chukotka	172.5	172.5
Number of hospital beds per 10,000 people	Russian Republic	138.4	155.7
	Magadan Oblast	157.1	152.1
	Chukotka	151.6	151.6

SOURCE: Basic Indicators of the Development of the Economies and Cultures of Minority People of the North, 1980-1989, Moscow, 1990.

“L” shape. Like most of the facilities we saw, it is plain and barren with areas “under repair” or “in construction”. And like most of the places visited, it is staffed with pleasant, generous people.

The treatments provided at the preventorium were described as “comprehensive for whatever the doctor feels the patient needs”. Modalities are typically used in combination with each other and can include medication, the most common of which is vitamin injections “to increase general good health”. A curious difference in the Soviet health delivery system is that patients prefer injections over oral medication, but apparently it is not only in the States that the patient does not feel adequately cared for if not given some sort of prescription. With a smile and that explanation, one doctor confided that his prescriptions of vitamin therapy injections are given more often for the “state of mind” or desire of the patient than for any strict medical indication.

Other treatments at the preventorium include a variety of folk medicines, many of which are brought from different parts of the Soviet Union. Grasses, plants, herbs, and oxygenated juices, mixed properly, are indicated for illnesses that vary from arthritis to stomach ailments, or to help sedate an overactive nervous system. Massage, special mud wraps, and sauna add to the healing process.

The ritual of the sauna seems therapeutic. Sauna is followed by a swim in an unheated pool equipped with water jets, streaming water spouts, and a flowing waterfall designed to massage and stimulate the body under it. The sauna-pool cycle is repeated several times as desired, and then massage is available.

In an adjoining room is a cylindrical device about four

feet tall composed of perhaps a dozen light-emitting tubes arranged perpendicular to the floor in a circle. This is one of several therapeutic uses of light employed by the Soviets with this particular device serving to enhance “an overall feeling of well being”. Light of various frequencies and intensities is used and delivered by an assortment of machines for disinfection, diagnosis, and treatment, sometimes in combination with vaporized medicines.

The preventorium staff includes nurses and doctors, as well as specialists in fitness and massage. A large gymnasium and fitness training complex on the top floor hosts specific exercise programs for children, heart patients, stroke patients, etc. The equipment is basic and the technology old by American standards, but this is a recurring theme of all the facilities visited. The preventorium staff also includes a “therapist” who is a medical specialist trained in the use of an impressive but confusing array of treatment devices that use energy in many different forms. One device provides electrostimulation, and another ultrasound, for uses probably similar to American physical therapy, although seemingly less for acute injuries and more for chronic illnesses.

Another machine uses electrostatic electricity to facilitate healing. Electrophoresis is used to transport medications through the skin. Laser and infrared are used to treat the “moving organs” such as the intestines or lungs. These therapies reportedly target certain body points and help adjust body fluid levels, clear the blood of harmful components, or stimulate the immune system. The doctors claim these treatments can be effective alone



or can be used adjunctly with medication resulting in a need for lower dosages of medication.

A specialist called a neuropathologist uses some similar techniques, but focuses more on the diseases of the nervous system, circulation and skeletal systems. They are also trained in reflexology, a healing art involving the application of pressure to certain reflex points on the body to bring about healthier functioning of the organ or system associated with each point.

## ALCOHOL TREATMENT IN YAGODNOYE

Living conditions are identified as the primary reason for depression and suicide. Most completed and attempted suicides are alcohol related. Suicide by violent means is the most common method used by men. Hanging is more frequent than self-inflicted gunshot because guns are somewhat hard to come by. (Only hunters have permits for firearms, and these are limited. A person must also undergo an examination by a substance abuse specialist (narcologist) or psychiatrist prior to receiving a permit for a gun.) Females tend to overdose more, often ingesting a highly concentrated form of vinegar bought at the store for cooking. The five cases of suicide or attempts in Sinegorye this year include two completed (drowning, fire) and three unsuccessful attempts (wrist laceration, hanging, overdose). All were male and all were alcohol related.

The polyclinic in Sinegorye has specialists in gynecology, surgery, pediatrics, therapy, laboratory medicine, and bacteriology, but no general psychiatrist or mental health professional. Psychotherapy in the American sense does not seem to be available in Sinegorye. Outpatient substance abuse treatment is available through the polyclinic's narcologist. Inpatient medical detox service is done here, but inpatient rehabilitation is not.

Patients needing inpatient alcoholism treatment, acute psychiatric evaluation or treatment are referred to the district center in Yagodnoye. Local psychiatric emergencies are treated primarily with sedation by barbiturates, droperidol, and others. Police often assist in the transport of psychiatric patients to Yagodnoye, four hours away by car. An anesthetist is sent to assist in controlling a patient who is "without mind". Once stabilized, a patient returns to the settlement for follow up by the non-psychiatric physicians. There is no case management system for the chronically mentally ill in Sinegorye.

An increasing effort to identify and monitor alcoholics is in effect. Clinical history and exam are the primary diagnostic tools, although blood alcohol levels are available through the district hospital in Yagodnoye.

In May 1991, 28 of 947 ambulance calls were for acute intoxication. If identified as alcoholic, the patient is assigned a special card and clinic code #54. This makes the patient ineligible for financial compensation from their employer for the time away from work. This also makes them ineligible to obtain firearms or a drivers license.

People come to alcoholism treatment in one of three ways: 1) self-referral and voluntarily; 2) through the medical system when the family (or other) calls the ambulance because the person is dangerous to himself or others (if resistant, police will escort); and 3) through the legal system when a person receives a third alcohol-related offense.

Youngsters under 21 are usually referred to treatment through the school system and are then automatically followed by a special commission that includes the narcologist, administrator of the clinic, and school officials. The case is reviewed by this commission quarterly, and after a year the decision whether or not to continue monitoring is made. Treatment for the youth includes individual sessions with the narcologist 1-4 times per month. Occasionally, the family participates in these sessions. When asked about the recourse if parents do not consent to treatment for their child, it seemed a very foreign question. There is no recourse because "the parents never object".

Adults, on the other hand, sometimes do resist treatment sessions, but the narcologist can ask the police to bring the patient to the treatment session. Mandated alcohol treatment is often imposed on those jailed for domestic violence and child abuse. These treatments are beginning to require payment of 25 rubles per session, as opposed to the otherwise free access to medical care. Individual and group counseling is gaining favor, but by far the most talked about treatment method is a specialized hypnosis technique. The narcologist interviewed there was not impressed with it however, and he believed the alcoholic must first want to get better before any change can happen. Alcoholics Anonymous is increasing in the Soviet Union, but not as yet in Sinegorye. About 150 patients are followed by the narcologist and the narcology nurse in Sinegorye.

Substance abuse prevention is aimed at children and begins in kindergarten. Representatives from the police,



Visit at Internat facility

hospital medical staff and narcology give presentations at the schools on prevention. The school teachers often include lessons on smoking, drugs, and alcohol, although no formal requirement is specified. The "kids try to act as an adult" was a main reason given for their behavior. In Sinegorye, 16 kids had their first offense for alcohol and three for marijuana during the previous school year. Ten teens were identified inhalant abusers. Harder drugs are less a problem due to the town's isolation compared to port cities where such a problem exists.

Drinking by pregnant women is not acknowledged as a problem. This ranges from denial "pregnant women don't drink" to a more realistic assessment that "women conceal their drinking". Pregnant alcoholics are offered abortion, but there are no cases known in Sinegorye.

The Fetal Alcohol problem, significantly evidenced in the Magadan regional chronic care facility, is vaguely acknowledged by health officials. However, in other ways, much emphasis is placed on children. One example is the administrative budgeting of 40% to maternal-child health care.

In Sinegorye, children attend a Pioneer camp located on the lake next to the preventorium. During the 26 day summer session, the children learn arts and crafts, lessons about nature and camping, and aspects of Soviet culture. Nutrition is emphasized, and fresh fruits and vegetables are served daily. The teachers at the camp act as counselors for any emotional or behavioral difficulties. No specific procedures for reporting problems discovered about the home or family situation exists and the staff seems to use an individualized approach to these cases. The concern and attention of the Soviet people is, in large part, directed toward the children.

Yagodnoye, the referral center for the district, is primarily industrial and does not have an indigenous Native population. The Yagodnoye District is part of the Magadan Region, which has some districts with Native peoples. Yagodnoye District population is about 55,000 with the largest towns being Sinegorye (13,000); Yagodnoye (11,000); Omotukan (7,000); and Deaben (3,500). Many smaller settlements compose the rest of the district. The main industries noted are gold mining, hydroelectric power production and some agriculture.

The District hospital is a 290-bed facility employing 70 doctors and 380 nurses and is encumbered by the extensive Soviet bureaucracy. The next level of care available is at the Regional center in Magadan, which takes referrals from all districts in the Magadan region.

Yagodnoye is the district's psychiatric center as well. One psychiatrist and two narcologist/psychiatrists worked there. The district's only other clinician is the narcologist in Sinegorye, thus keeping the Yagodnoye clinicians busy. In addition to inpatient and outpatient service, they itinerate to the settlements without direct psychiatric service on an as-needed basis.

In 1990, 3,525 patients were treated or evaluated by psychiatry in the Yagodnoye district. This included 2,517 examinations for drivers' licenses, gun permits, or as part of clearance for "dangerous jobs" in industry. Of the 885 patients seen for mental illness, 118 were children. 181 patients received a physician home visit. These numbers cannot be taken as strict values because of possible translation error and limited Soviet statistics in epidemiology. Our Soviet colleagues often joked about "Russian computer" while pointing to a ledger notebook or to their heads. Statistics were often inconsistent or did not agree with the translator's description. Only those numbers that seem to be the most reliable have been cited.

In a breakdown of 241 district psychiatric patients, 117 were called "difficult" cases, which included 76 cases of schizophrenia, and the remaining 41 cases were manic depressive or "old age psychosis". The rest of the 241 included 90 "non-schizophrenic" patients and 34 oligophrenia ("little mind"). There were 52 "invalid" psychiatric patients in the district of which 32 were thought to be schizophrenic.

The outpatient psychiatry and narcology service is combined in a cottage separate from the other hospital facilities. The inpatient unit is also separate, and combines the psychiatric and narcology patients under the same roof but in different wings. Bed space, including dorm rooms and beds in the halls, accommodates 40 patients: 20 psychiatry, 20 narcology.

The staff consists of three doctors, one head nurse, five psychiatric nurses, one medical nurse, five junior nurses/attendants, and one housekeeper. The day shift (all female) consisted of the head nurse, the medical nurse, one junior nurse, and the housekeeper. Violent patients are usually subdued by the other patients. Incidence of violent outbursts occurs 2-12 times per year. Most patients on the unit appear fairly sedated and medication is the mainstay of treatment. The psychiatric ward's daily schedule includes morning doctor's rounds, treatments, and work therapy. The afternoon includes education groups and individual sessions with the doctors. The most common diagnoses are depression, cyclothymia, schizophrenia, and dementia. The conditions treated vary from acute to chronic with an average stay greater than one month. Some chronic patients may live there for years, with trials at home often failing due to medication noncompliance. Our Soviet colleagues also share a struggle with trying to serve the homeless mentally ill.

Patient age at the Yagodnoye psychiatric facility ranges from children to elderly, but younger patients were uncommon. A special boarding school for behaviorally disturbed children is located in Susuman and described as very crowded. A seasonal variation in psychiatric population is noted as similar to Alaska, with a decreased census in the summer and a shortage of bed space during the winter. The chronic patients often get their trial at



home to make room for another patient when beds are needed.

The narcology patients stay inpatient for an average of 45 days for alcoholism and 60 days for drug dependencies. This particular unit treats primarily chronic alcoholics as they preferred to send drug addicts to Magadan for treatment. The settlement of Deaben (population 3,500) has six inpatient beds for treatment of chronic alcoholics with tuberculosis at the district's tuberculosis hospital. If treatment is unsuccessful at the Yagodnoye narcology center, the patient can be referred on to Magadan for treatment with psychotherapy or hypnosis. In Magadan, a patient may receive an Antabuse subcutaneous implant which lasts up to three years. Other specialized treatment modalities, through referral to Magadan, are acupuncture and reflexology. Chronic alcoholics are also sent to special camps for labor therapy, but this now requires a judicial process to decide the length of stay (typically 1-2 years). The Magadan Region Camp is located in the Susuman District in the settlement of Kedrovoye.

The Susuman camp is for men; a labor camp for women is located in Siberia. Additional camps are located in central Russia. Labor therapy includes construction work, painting, sewing and clothing manufacture. Apparently, opportunity to drink at this camp exists with contraband liquor or access to makeshift stills, thus limiting its success rate.

Alcoholism is identified as a significant problem in the district. The reasoning is that alcohol relieves the increased stress due to "poor life and poor jobs", and the unstable population with frequent "moving in and out of families". One measure used to estimate the extent of chronic alcoholism is the number of cases of alcoholic psychosis (delirium tremens). The rule of thumb is 36 chronic alcoholics for each case of alcoholic psychosis.

The yearly rate of alcoholic psychosis for the Yagodnoye clinic has steadily increased: 1 case in 1987, 3 in 1988, 6 in 1989, 15 in 1990 and 7 cases in the first half of 1991. Again, these statistics are suspect for various reasons (e.g., in each year cited, the numbers were only male or female in that particular year, never a combination which seems unlikely), but they do give some indication of the increasing trend. Alcohol related deaths are also on the rise, from ten cases in 1987 to 15 in the first six months of 1991. In each year, typically about half of these were suicides or accidents, the other half from direct alcohol intoxication.

In 1990, the Yagodnoye narcology outpatient service saw 1,281 patients, of which 582 were for alcoholism treatment and 699 for medical examination prior to receiving a gun permit, driver's license, or clearance for dangerous jobs. Of the total visits, 353 took place at the patient's home. This typically happens when the person will not come voluntarily and the police request the doctor to do an evaluation.

When a school teacher asks to have a parent evaluated, this is done in cooperation with the school and the department of education if the evaluation is for possible court-ordered placement of the children in protective custody at a "special facility". Police can intervene and jail a person for domestic violence. Special treatment programs targeting alcoholism and domestic violence are developing. A person can be court-ordered to pay 25 rubles per visit for this special treatment program.

## YOUTH SUBSTANCE ABUSE

A special council uses police reports to identify at-risk teenagers. Even for a first offense, a teenager attends mandatory outpatient treatment for at least one year, and

is followed by a special committee. This committee of about fifteen people includes the psychiatrist (who makes final treatment decisions), school representatives, a police officer specializing in teens, and local deputies of health. The parents and the teenager may be required to pay a fine. The offender is followed for a year and then cleared if there are no further problems. The Yagodnoye district identified 23 teens with alcohol related problems and 17 with inhalant abuse over the 90-91 school year. A



Wall mural drawn by a resident of the Internat

special home and school exists for "problem teen-agers", but is not located in the Magadan area.

## NARCOLOGY EVALUATIONS

Most patients admitted to the psychiatry/narcology unit in Yagodnoye receive basic screening laboratory studies such as chemistry analysis, liver panel, urinalysis, serum proteins, and test for syphilis. HIV testing is required on all alcoholic patients, and is routine for the psychiatric patients. Only a limited number of laboratory tests are done due to a shortage of technicians and supplies. More specialized studies are done in Magadan if necessary and the psychiatrist arranges transfer of the patient. In Magadan, specialized clinics such as "antipsychosis clinic" offers a higher level of care. Forensic evaluations and organic workups such as EEG also require transfer to Magadan. Once at the regional center, a wider range of therapies are available (e.g., psychotherapy, Eastern Medicine clinic) in addition to more aggressive psychopharmacologic interventions.

## COMPARISON

The psychiatric delivery system in Sinegorye, Yagodnoye, and Magadan seem remarkably similar to a regional center hospital for the Indian Health Service in Southeast Alaska, where a wide range of care is provided by general psychiatrists (similar to Yagodnoye) for local patients and those referred from villages having little or no mental health services (similar to Sinegorye). If a more specialized evaluation or treatment is required, patients are referred on to Anchorage (similar to Magadan). The psychiatrists and people involved with mental health delivery in the Yagodnoye district appear to be struggling with the same problems as in Alaska. The techniques, in some cases, are quite different, but hence is the opportunity for mutual learning and exchange.

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Work Plan and FAS contributed by Bill Richards, MD, and Margaret Lowe, M.Ed, Ed.S. Yagodnoye District Treatment Study contributed by Joe Reoux, MD.



# Ophthalmology Services in the Magadan Region of the Soviet Far East with Special Reference to Diseases of the Retina.

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## ABSTRACT

Ophthalmology Services were observed during the two week period July 4th through 16th, 1991 in Magadan in the Soviet Far East. The range of diabetic eye disease appears to be similar to that observed in the West. Major requirements for education (both patient and physician, stressing the importance of controlling blood glucose and its relationship to diabetic eye disease) and inexpensive reliable diagnostic and therapeutic equipment were identified. Substantial benefits can be achieved by supplementing the current medical infra-structure. Continued medical education through exchange of information remains a primary objective.

## INTRODUCTION

The aim of the visit to the Soviet Far East was to 1) assess requirements and make various observations regarding the range of retinal pathology and the availability of related medical facilities and equipment, 2) exchange information: offer specific evaluation (diagnosis) and treatment strategies regarding retinal pathology with special reference toward diabetic retinopathy/maculopathy (laser and surgical management), 3) introduce treatment modalities and equipment currently utilized in the West and 4) to plan further expeditions with a view toward providing reliable/dependable equipment to allow the Soviets to gradually but rapidly upgrade their services.

In addition, I was interested in interacting with the Soviet physicians in order to learn from them by making various observations in the following areas.

1. Examine the Soviet socialized health care system to learn possible methods for providing better access of health care to all levels of our society.
2. Determine how Soviet physicians cope with limited resources. We in the West are having to cope with the rising cost of health care and also have finite resources. Can we apply what the Soviets have learned to assist us in containing our medical costs but still provide an appropriate

level of medical care? How do their physicians manage without our high tech brand of medicine? Can we learn from them how to be more economical and efficient?

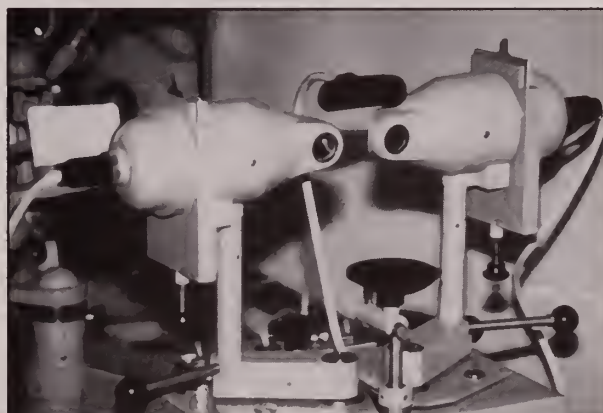
3. Medical practitioners in the Soviet Union lack many of the incentives we have in the West, yet they seem to be highly motivated. Why?

4. Do the Soviets have the same range of medical problems observed in the West and do they treat them similarly? Is their population unique in respect to genetic make up, diet, environment, social practice, or living conditions resulting in a preponderance of any unusual eye conditions?

## BACKGROUND

Magadan is a port city in the Soviet Far East with a population of 150,000 to 200,000. The Magadan Eye Hospital is a three story concrete building situated on a hill overlooking the city and bay. The second floor, the only one currently utilized, contains a twenty-five inpatient bed ward with patient dining room, a kiosk and laundry facilities, outpatient waiting and treatment and examination areas including an area for minor surgical procedures.

The clinic examination area consisted of one darkened room with one slitlamp, two refraction areas, a keratoscope, an amblyoscope and a Goldmann-type perimeter. In one corner of the room was a collection of broken equipment which included the hospital's only binocular indirect



Ophthalmological equipment in Magadan

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ophthalmoscope. Retinoscopy and fundoscopic examinations were performed with the aid of a bare incandescent light bulb placed behind the patient. The physician, facing the patient, then utilized a hand-held concave mirror ophthalmoscope/retinoscope (viewing the patient's fundus through a central aperture in the mirror) with appropriate lens to create a retinoscopic light reflex or fundoscopic image. The slitlamp was quite functional and provided an excellent image of the anterior segment of the eye. These slitlamps were manufactured in the Soviet Union and appeared very similar to their modern Zeiss counterpart. Unfortunately, they did not have any accessory lenses (Hruby, 90D or 60D diopter) to view the fundus. However, my Volk 78D lens worked perfectly with the slitlamp providing an excellent stereoscopic view. This same slitlamp was available in all regional polyclinics.

The Iris diode laser with its indirect ophthalmoscope became the central focus of my visit to the Magadan Eye Hospital and associated polyclinics in that with this unit I was able to teach the Russian ophthalmologists the various stages of diabetic retinopathy/maculopathy as well as perform laser panretinal photocoagulation on a limited number of patients. For most of the ophthalmologists I encountered, the view they were able to obtain with either the Proper indirect ophthalmoscope or 78D Volk lens with their slitlamp was their first opportunity to obtain a stereoscopic view of the fundus. The Iris Medical 810 nm solid state diode laser was utilized to treat 12 patients (23 eyes) with proliferative diabetic retinopathy through the course of my stint in the Magadan region. I performed the initial portion of most of the treatments and then allowed the Soviet physician to complete the photocoagulation.

The majority of patients were treated at the Magadan Eye Hospital and a very small number in one of the two outlying polyclinics in Ola or Palatka. Ola is a small seaside resort and fishing village located approximately 35 miles from Magadan and Palatka is another small inland town located in a gold mining region approximately 75 miles from the city. The polyclinics are general medical clinics which may or may not have resident general ophthalmologists. An ophthalmologist makes regular visits to the polyclinics and consults on all ophthalmic patients. Patients requiring surgery or complex medical management are initially transported to the regional eye hospital in Magadan and if they require more sophisticated treatment, are subsequently transported to Moscow by Aeroflot.

The vast majority of patients whom I saw were diabetic with some form of retinopathy, however, I was presented a case of proliferative vitreo-retinopathy with a long standing rhegmatogenous retinal detachment and several cases of posterior uveitis (one said to be secondary to tuberculosis). In addition, I was asked to consult on one patient with the retinal manifestations of the very rare von Hippel-Landau Syndrome. I never saw a case of age-

related macular degeneration which probably reflects sampling error since they stated that it is quite common.

At a nearby maternity hospital neonatal intensive care unit, I examined two premature infants for retinopathy of prematurity (ROP). Neither of the infants was receiving supplemental oxygen. Oxygen is rarely utilized and ventilatory support is not available. Neither infant had any evidence of ROP, however, the peripheral retina in the smaller of the two was somewhat immature. This encounter facilitated a discussion of current management practices of ROP with the ophthalmologists, pediatricians and neonatologist.

## **OPERATING ROOMS**

The Magadan Eye Hospital contained one operating room. The vast majority of operations are done under general anesthesia with spontaneous unassisted ventilation. The microscope used in the operating room was adequate for anterior segment surgery but could not be suitably adapted for posterior segment procedures. In one corner of the operating room was a new modern appearing floor mounted scope which was of Soviet origin. It appeared to be an excellent scope for microsurgical procedures but, unfortunately, it had arrived minus several critical parts including the oculars. Many attempts over the past several months to obtain the required parts were unsuccessful. Most of the small hand instruments in the operating room had easily recognizable western counterparts. Microsutures seemed to be in quite short supply. The Soviet doctors operated without gloves. They perform thorough handwashing prior to their first case and rub their hands with a cloth soaked in alcohol between cases. Patients are prepped with a bright green skin paint which contains an iodinated compound and drapes are of reusable cloth only; no self adherent disposable plastics. Endophthalmitis is reportedly not a problem.

## **OPERATIONS**

Four operations were performed during my visit. The first procedure was a guarded filter operation for glaucoma. This procedure was accomplished quickly with great expertise. The surgeons' skills were excellent. The next operation was a strabismus procedure for a congenital esotropia and removal of a chalazion from a patient's upper eye lid. Another ophthalmologist performed an operation to correct progressive myopia in a young girl. The Soviets define progressive myopia as any patient in whom myopia is progressing at a rate of greater than two or three diopters a year. The operation was done bilaterally and consisted of placing strips of alcohol preserved dura mater in pockets created between the sclera and conjunctiva in four quadrants. They feel that the operation is successful but do not collect statistics to document their beliefs.



Several of the younger ophthalmologists remain skeptical of this treatment.

## EDUCATION OF DOCTORS

Medical education typically consists of four years of medical school, a three year residency (apprenticeship), and a one to two-year fellowship. A chief ophthalmologist in this region is paid 900 rubles per month (\$30 at the current rate of exchange) and, as all Soviet citizens, receives 42 days of paid vacation per year.

The eye hospital medical staff consists of the department head, one associate, and a resident physician. Medical students are also seen at the hospital, primarily from Khabarovsk. There is a staff anesthesiologist who splits her time between the eye hospital and various other hospitals in Magadan. In addition, in the Magadan region there are approximately 10 general ophthalmologists working in various clinics; only one is male.

## PROCEDURES / PATHOLOGY

Magadan Eye Hospital estimates their total number of operations per year to be 400 of which 300 are done as inpatients (see Table 1). However, accurate statistics are extremely difficult to obtain. The total number of patients seen per year through the eye hospital and various

polyclinics is estimated at 2000. Total number of inpatients at the Magadan Eye Hospital is 700, of which 11% are trauma related. They see approximately 230 cases of uveitis per year, approximately 125 of which are posterior or panuveitis, the remaining being anterior. Treatment consists of steroids and mydriatics. Diabetics are sent to Moscow at the first sign of retinopathy where laser treatment and/or early vitrectomy is performed, approximately 200 per year. There appears to be poor monitoring of blood glucose with no home monitoring of either blood or urine.

## TREATMENT

Medical and surgical management of eye diseases follows for the most part conventional and generally accepted practices. However, several exceptions did exist. These included treatment of 1) progressive myopia with dura mater implants, 2) age-related macular degeneration with vasodilators, mydriatics (generally atropine), magnetism and ultrasound, 3) intermittent insulin withdrawal for diabetic retinopathy, 4) Catachrom eye drops (cytochrome C, sodium succinate, adenosine, nicotinamide and sorbitol) for cataracts, 5) topical vitamins for cataracts and macular degeneration and 6) various tissue extracts for retinitis pigmentosa. Iridology, herbal remedies and magnetism are also considered an acceptable

Table 1. Surgical Procedures Performed at the Magadan Eye Hospital

<u>Type</u>	<u># of Operations per year</u>	<u>Comments</u>
Cataracts	70	ICCE (no IOL's)
Retinal Detachment	3	Most sent to Moscow
Glaucoma	100	Guarded filters
Strabismus	50	
Dacryocystorhinostomy	20	
Blepharoplasty	20	
Vitrectomy	50	Initial workups done in Magadan, surgeries sent to Moscow, including complex RDs
Pterygium	12	
Myopia	250	Non-Radial Keratotomy
TOTAL	575	
TOTAL (Magadan)	525	

### Key:

ICCE: Intra-Capsular Cataract Extraction  
 IOL: Intra-Ocular Lens  
 RD: Retinal Detachment

part of their medical armamentarium. It is certainly important to keep an open mind when dealing with any aspect of medical therapeutics, conventional or otherwise, however, studies supporting beneficial effects of these modalities are still needed.

Many examples exist in Magadan of modern equipment sitting unused in various clinics, gathering dust for lack of the ability to maintain, repair or replace worn/broken/missing parts. An excellent, new, operating room microscope sat off in the corner of the operating room in disuse because of missing oculars. In addition, a binocular indirect ophthalmoscope sat in the clinic exam room in disrepair (faulty wiring, transformer and/or defective bulb) while they used mirrors with back lighting to examine fundi. This latter method does not provide stereopsis which is essential for retinal diagnosis.

Equipment, expertise, and support should be provided so that these physicians will be able to continue to progress in our absence. Giving the Soviet doctors immediate access to the most up-to-date, sophisticated, complicated and delicate equipment would be a disservice knowing that much of this equipment has a high failure rate even in the United States where obligatory technical support is available. More reliable options, for example, solid state lasers rather than their more complex counterparts and simple infusion/aspiration devices for cataract surgery, rather than less reliable phacoemulsification equipment should be provided in the first instance. And certainly, diagnostic equipment like binocular indirect ophthalmoscopes and 90D lenses for their slitlamps are inexpensive, essential, and reliable.

Inexpensive and reliable equipment, although not providing the highest level of technology, will enable major advances. This will eventually lead to the more sophisticated level of care but in a very deliberate and step-wise fashion; allowing time for the establishment of a peripheral system of technical support by integrating with the existing medical structure is preferable.

#### **DIABETES AND DIABETIC RETINOPATHY/ MACULOPATHY**

The goal of eliminating diabetic eye disease may be more easily attainable in the Soviet Union in part due to the unique structure of their society. First, they do not have the same luxury of easy mobility as we have in the USA. For the typical Soviet citizen to move from one city to another, government approval must be obtained. This provides a captive audience for the detection, treatment and follow up of diabetes and diabetic retinopathy. In addition, the Russian people seem much more willing to accept medical advice and intervention as directed by their physicians. Also, medical care is provided free to all Soviet citizens, therefore enabling at least yearly visits. And finally, in the Soviet Union, there is a relative increase

in medical manpower with a greater medical personnel to patient ratio than in the USA, providing a mechanism to implement an undertaking of this magnitude.

#### **EDUCATION**

Continuing education and research are essential for Soviet physicians. One of their current therapies for myopia, the transplantation of donor dura mater, is not practiced in the rest of the world. Rigorous clinical trials should be conducted and statistics of results should be available for critique by the world medical community. In short, due to the USSR's past global isolationist policy, they have been cut off from the international medical community. It is therefore necessary to promote medical exchange between physicians in the USA and USSR.

The ophthalmologists I encountered in Magadan were extremely hungry for knowledge. They lack access to most if not all world medical literature and were completely unaware of the results of many key clinical trials which have significantly altered western medical practice. By continuing exchange of professionals and information, significant cooperation may be attained.

I am excited with the prospects for the future for these warm and receptive people and look forward to being a part of their medical evolution.

#### **ACKNOWLEDGEMENT**

Olga N. Tsoi, MD, Chief of Ophthalmology, Magadan Regional Hospital.

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Allergan Pharmaceuticals, CA (pharmaceuticals)  
Greishaber & Company, Langhorne, PA (intraocular light source 630.61 and probes 630.77)  
Iris Medical Instruments, Inc., Mountain View, CA (Diode laser, OcuLight SL, with indirect ophthalmoscope and endolaser probes)  
Mentor O & O, Inc., Nowell, MA (battery operated vitrectomy unit, Surg-E-trol 22-1765-R, Surg-E-trol aspiration unit, 22-1720-R, and 0.3 mm aspiration handpiece 22-1730).



# Family Planning, Obstetrical and Gynecological Health Care Provision in the Soviet Far East

Russel J. Thomsen, MD<sup>(1)</sup>

## ABSTRACT

The Soviet model for both obstetrical and gynecological care and family planning provision seems entrenched in the Soviet Far East as found during a July 1991 visit to the Magadan and Chukotka Regions. Modern birth control is minimally practiced, but does include use of the older Soviet Loop intrauterine contraceptive device (IUD), recent introduction of the new Soviet Copper-T IUD and sporadic availability of condoms and foreign made birth control pills. Without male or female surgical sterilizations being performed, the consequence is that the major form of family planning is first trimester abortion. During this visit, I introduced the use of the NORPLANT Subdermal Contraceptive System and the Copper-T 380A IUD to physicians at Anadyr and Pevek regional hospitals. Gynecological surgery was also performed and fairly typical ob-gyn care units were toured. Ob-Gyn physicians in the Soviet Far East were found to be highly motivated. They look to the West for help in upgrading family planning and ob-gyn health care in the face of severe shortages after a half decade of perestroika.

## INTRODUCTION

During the July 1991 ICHS/UAA Magadan-Chukotka Medical Expedition, intimate contact with the health care system of the Soviet Far East as it relates to the needs of women provided insights into its structure, strengths, and deficiencies. Also, because of my past extensive observation of ob-gyn and family planning care in the western part of the Soviet Union, Soviet Georgia, and Soviet Turkmenistan, I was in the position of making comparisons within a Soviet health care system spanning the eleven time zones of that immense country.



Reindeer skin yaranga and Native woman in Chukotka

Unique to the Soviet Far East is not only the presence of Native peoples living in similar ways to their ancestors (and to many Natives in Alaska), but the vast distances involved in providing health care to these and other isolated peoples.

## FAMILY PLANNING AND CONTRACEPTION

The Soviet model is firmly in place in the Soviet Far East. Clearly, major reliance for family planning is on abortion, usually in the first trimester. For instance, in statistics provided by the Minister of Health for the Chukotka Autonomous Region, in 1989 there were 198 registered abortions performed per 100 live births while in 1990 there were 166 registered abortions per 100 births. The significance of this one year drop is not apparent although professionals theorize that families are trying harder to prevent pregnancies as the economic difficulties of over five years of perestroika are making family survival even more precarious. If this is true, it would reflect the situation in the United States during the Great Depression when this nation's fertility hit a historic low despite the absence of what is now accepted to be good birth control.

Apart from these raw statistics, all experts agree that registered abortions reflect but a fraction of actual abortions done in the Soviet Union. Gynecologists in the Magadan and Chukotka Regions of the Soviet Far East agreed with that assessment. Many abortions are performed in the medical "black market" where patients pay for private abortions with the understanding that these might bring anonymity, a guarantee of pain medication or anesthesia for the procedures, and an increased degree of safety. However these assumptions are viewed, it is possible that the abortion rate is nearly 300 per 100 live births in the Soviet Far East.

A discouraging aspect of this reliance on abortion for family planning is a rather prevalent feeling by women

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and even some health care providers that abortion is "natural" and that modern birth control is either unnatural or suspect for its safety. That this belief prevails in 1991 even among some health care providers is unfortunate given the suffering, injury and even death Soviet women have endured through reliance on abortion. During my visit to a reindeer herding village and camp in Chukotka, northeast of Anadyr, I questioned Native women on their attitudes about birth control and family planning. I received a 100 percent response that abortion is their method of family planning and is considered natural. The gynecologists I worked with in Magadan, Anadyr, and Pevek seemingly did not share this belief.

### INTRAUTERINE DEVICES AND NORPLANT

A main goal of my visit to the Soviet Far East was to update professionals on the international status of modern birth control. At each of my major stops, I gave illustrated presentations on the Tcu380A Intrauterine Contraceptive Device (Paragard), and the NORPLANT Subdermal Contraceptive System. The Tcu380a IUD is the most widely used IUD in the world. I demonstrated its use at the Anadyr and Pevek Regional hospitals and left samples and information on the acquisition of the device through international agencies such as the World Health Organization. I also had the opportunity to perform a number of

NORPLANT insertions at these same two hospitals, again leaving samples and contact material for the professionals. It is important to understand that modern contraceptives such as NORPLANT or the Tcu380a IUD provide five to six years of contraception respectively. As such, it can be conjectured that each Soviet woman could prevent one to several abortions by the use of these modern methods.

As with my other extensive medical visits in the Soviet Union, I had a professional goal of obtaining samples of contraceptives available in the Soviet Far East. In addition to obtaining more samples of the older, non-sterile "Loop" IUD copied after the Lippes Loop, I found reasonable supplies of the new Soviet Copper-T IUD. I first saw this IUD in 1988 at the All Union Center for Maternal and Child Health Care in Moscow. In 1989 I obtained samples of it in Ashkhabad, Soviet Turkmenistan and subsequently have reported about it in scientific literature. Manufactured in the Russian city of Kazan, it is the first Soviet IUD to come in a sterile pack along with its inserter. Its plastic is not X-ray opaque, and Soviet professionals continue to hold its quality in suspect compared to Western models. It seems to be important that Western technology be supplied to the Soviet manufacturer to bring this IUD and its packaging up to modern standards. For it is clear that any successful family planning program in the Soviet Union must rely on a locally produced, quality IUD.



Removal of fibroid uterus during supracervical hysterectomy



## ORAL CONTRACEPTIVES

As I have previously discovered and reported, there are no oral contraceptives manufactured in the Soviet Union. And even though I obtained samples manufactured in Eastern Europe, the inconsistent distribution makes the Pill of little use to the average woman in the Soviet Far East.

## CONDOMS

I found no Soviet manufactured condoms during this Far East visit, though they are available intermittently. I did obtain samples of imported Chinese and Austrian condoms. I did not find any evidence of widescale use of condoms in the Soviet Far East. Like elsewhere in the Soviet Union, birth control is held firmly to be the woman's responsibility. This continues to be true even though the incidence of sexually transmitted disease is mounting. AIDS is discussed widely and tested for in a limited way. However, it remains a minimal problem in this area of the Soviet Union which has only recently had contact with the West and the pathways of the international dissemination of diseases.

## STERILIZATION

Very few tubal sterilizations are performed on women. An exception is during the Cesarean section of a highly multiparous patient. No vasectomies are done. So unheard of is the notion of vasectomy that I even had to describe the surgical technique to several gynecologists who had only a vague idea of its methodology.

## GYNECOLOGIC SURGERY

As a practicing obstetrician-gynecologist, I again enjoyed my contact with both ob-gyn physicians and their patients. A majority of gynecologists in the Soviet Far East are women, also a Soviet-wide tradition. At the Anadyr Regional Hospital all eight ob-gyn physicians are women. At the Pevek Regional Hospital overlooking the Polar icecap at the extreme north of the Chukotka Autonomous Region I had the privilege of assisting in surgery with several colleagues. Unique of the two hysterectomies which we did were that they were "supracervical." In this procedure the main body of the uterus is removed, but the cervix is left in place. No longer used in the West, this technique is meant to minimize the occurrence of post-operative pelvic abscess from bacteria ascending from the vagina. It is an understandable concern to surgeons 300 kilometers above the Arctic Circle in a hospital not having the plethora of modern antibiotics Western medicine takes for granted. Surgical technique was exemplary at this remote hospital.

## OBSTETRICS

As elsewhere in the Soviet Union, modern obstetrics has yet to come to the Soviet Far East. The long-time Soviet tradition of not letting fathers into the hospital for either the birth or postpartum period seems firmly entrenched in the Soviet Far East. There is limited availability of labor monitors, ultrasound, and life-saving equipment in the newborn nurseries.

## PERINATAL STATISTICS

In statistics provided by the Minister of Health of the Chukotka Autonomous Region, the 1990 perinatal death rates were 18.9 per 100 live births for Russian women and 16.9 per 100 live births for Native women. Initial observations of these statistics indicates the probable underreporting of perinatal deaths which occur to Natives while living in their "yarangas" (tent homes of the reindeer camps) or in isolated villages.

The second observation putting these statistics into perspective is that all pregnancies delivering up to 28 weeks of gestation are considered to be miscarriages, compared to the general American criteria of 20 weeks gestation. If premature deliveries during this additional eight week window were added, a truly discouraging rate of pregnancy outcome would be realized.

## SUMMARY

The professionals in women's health care I dealt with in the Soviet Far East were of the usual high personal and professional quality I have come to find throughout the Soviet Union. The deficiencies of modern medications, medical equipment and physical plants they work under are painfully aware to each of them, along with their hope to someday obtain all of this through help from the West or improvements in the Soviet economy. This visit opened to my understanding the great lands and peoples of the Soviet Far East and made me committed to an ongoing medical effort to assist them.

# Magadan Pharmacy Services Update

Julie Fuller-Joiner, R.Ph.<sup>(1)</sup>

## ABSTRACT

Pharmacy services in the Magadan Region were visited in order to obtain an update of the current pharmaceutical availability and operation. The first pharmacy visit occurred in July 1990, and is published in the Jan/Mar 1991 issue of Alaska Medicine.

## UPDATE

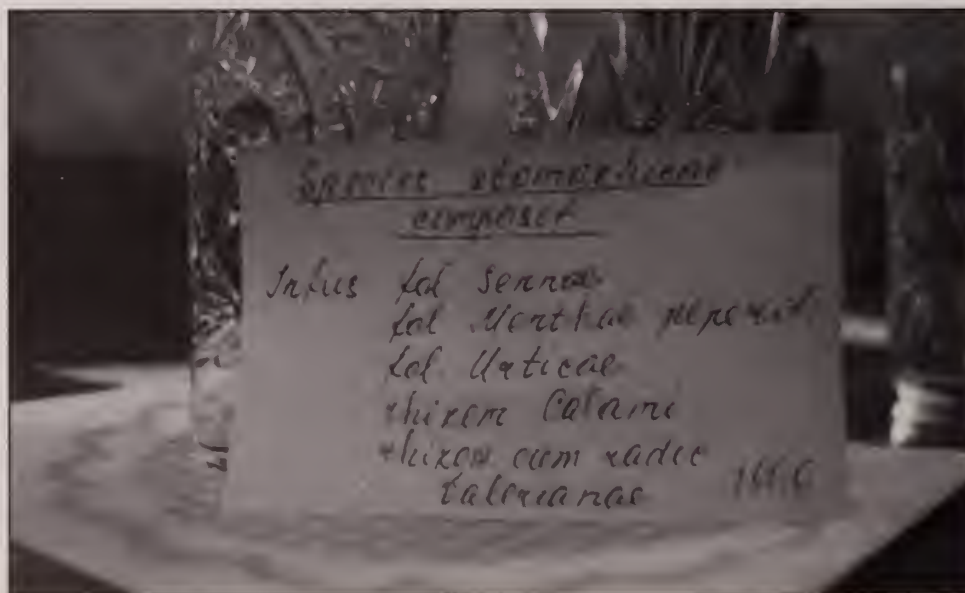
How has the changing economic conditions in the Soviet Union affected the practice of pharmacy and the drug distribution system in the Soviet Far East? While most medical services in the Soviet Union are free to citizens, prescription drugs are one service that most patients must pay for. Patients receiving free medication may fall into one of several categories, such as diabetes, cancer, tuberculosis, Natives, invalids, children under the age of three, veterans of World War II and the Afghanistan War and victims of the Chernobyl nuclear accident. Like other health services, the drug distribution system is financed by the government, this is because the money patients pay toward their prescriptions most often does not cover the cost of the drug. In April 1991 when consumer goods prices in the Soviet Union rose 250 percent, the government did not raise the prices of prescription and

non-prescription drugs, although pharmacists were able to raise the prices of items which they compounded.

There are shortages of drugs in the Soviet Far East. Pharmacists in Anadyr, Pevek, and Magadan state that in 1991 they received only 60-70% of the drugs which they ordered from Moscow. Moscow is the only source of pharmaceuticals for the Soviet Far East. Pharmacists site two possible reasons for the lack of supplies. Many of the pharmaceuticals come from other countries such as Poland, India, Hungary, Yugoslavia, Turkey, and Germany. At this time, the Soviet Union may not have the cash to pay for such purchases. The second possible cause is some Soviet pharmaceutical manufacturing companies have shut down. Pharmacists expect the availability of supplies to worsen in the coming year.

When a drug is not available and is needed for a patient, the pharmacist will first turn to compounding from bulk quantities of the drug. If this is not possible, the pharmacist will work with the physician to find an alternative drug within the same therapeutic class. If these avenues fail, the patient must wait until the next large shipment of drug supplies arrive. Pharmacies receive shipments every three months. Pharmacists in Anadyr, Pevek, and Magadan state that the drugs they are in most need of include antipyretics, sedatives, analgesics, contraceptives, hypoglycemic agents, cardiovascular agents such as long-acting nitroglycerin, and vitamins.

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Herbal drink preparation recipe



# 1991 Magadan, USSR / Alaska, USA Dental Exchange Program Report

Robert J. Allen, DDS<sup>(1)</sup>  
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Charles F. Craft, DDS<sup>(1)</sup>

## ABSTRACT

In August 1991, three rural Alaska Public Health dentists made a professionally significant return visit to the Soviet Far East. The city of Magadan was the site for the first actual demonstration of portable American dental equipment and treatment techniques in this remote region of Russia. This exchange was held at several clinical locations and took place during the time of the attempted USSR government coup.

## INTRODUCTION

The following is a report of the cooperative international dental exchange program that took place August 14 - 22, 1991 between dentists from the State of Alaska, USA and stomatologists from the Magadan Region, USSR. This event was conducted through the University of Alaska, Institute for Circumpolar Health Studies and the Magadan Ministry of Health.

## EQUIPMENT

Through the bilateral sharing of international scientific dental knowledge, this exchange was able to take on a goal of historical significance. For the first time, American dentists were able to transport, assemble, and successfully operate portable dental equipment in the distant regions of the Soviet Far East. Despite the barriers of conflicting electrical currents and voltages, numerous types of equipment were used through the utilization of convertors and adapters. Dental equipment employed during this visit included: portable 220 volt compressor, Adec Porta-Cart delivery unit with high volume evacuation, fiber optic handpieces, light-cure unit, amalgamator, electric pulp tester, and sonic scaler. Along with these items, Soviet equipment was integrated to complete our operatory set-up and included: reclining patient chairs, dental operating stools, radiographic machines, alloy mixers, heat sterilization units, X-ray developing solutions, metal

basins, and lead shields.

Large amounts of various types of typical US dental instruments and supplies were also taken. These materials were transported in large aluminum supply boxes that were able to withstand the rigors of airline handling and customs inspections. Items included: operative hand instruments, surgical instruments, various silver amalgams, composite materials, matrix bands, finishing strips, rubber dam material, disposable gloves, face masks, safety glasses and shields, various cements and liners, endodontic files, retention pins, sealants, topical and various local anesthetics, syringes, needles, gauze packs, explorers, periodontal probes, scalers and curettes, dental floss, finishing disks, articulating paper, stainless steel crowns, X-ray film, fluoride gel, limited medications, toothbrushes, toothpaste, prevention posters, and patient information pamphlets. Many of these items were exchanged with our Soviet colleagues for samples of Soviet materials.

## DEMONSTRATIONS

The use of this equipment and materials was demonstrated in several locations within the city of Magadan. Treatment sites were selected at the Adult Polyclinic, the Children's Polyclinic, and the Aeroflot Staff Settlement Clinic at the airport. Between each visit our gear was packed, transported via jeep or van, and set up again. These moves allowed the delegation to maximize the number of stomatologists (dentists) who could view



Group photo in Magadan Dental clinic

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the dental procedures. Whereas in past exchanges only chief Soviet doctors had this privilege, this program allowed over 55 stomatologists to be introduced for the first time to Western dental practices. In some cases, Soviet doctors assisted on or performed those procedures that had been previously demonstrated.

Introductions to standard American practices such as infection control, four-handed assisting, oral and soft tissue exam procedures, periodontal probing, patient charting, and record keeping were demonstrated. The ideas of medical histories and patient consent were discussed. Examples of bitewing, occlusal, and panoramic X-rays were displayed. Self-developing PA films were shown. Injection techniques (regional block, infiltration and PDL types) using local anesthetic (with and without vasoconstrictor) were demonstrated. Pediatric behavior control methods were conducted. Rubber dams, bite blocks, mouth props, and cotton roll holders helped to clarify the idea of tooth isolation.

## PROCEDURES

Actual treatment was completed on numerous Soviet patients. Basic dental procedures included: rubber cup prophylaxis, hand and sonic scaling of supra and sub-gingival calculus, fluoride gel treatments, placement of alloy (Tytin and Dispersalloy) fillings, use of cavity liners (CaOH, glass ionomer and Copalite), matrixing (mylar, Tofflemire and Automatrix bands with wooden wedges), retention pins, use of self-cure and light-cure sealants, pulp tests, light-cure composites (Prisma APH), adult and pediatric stainless steel crowns, pulp therapies (including deciduous FMC/Temrex pulpotomies), zinc phosphate and glass ionomer cements, dentin/root desensitizer, Ora-Base gel, preventive resin restoration, and routine odontogenic extractions. Overall, a wide array of procedures and techniques was presented.

## CONSULTATIONS

Additional patients were seen for consultation purposes. Unusual cases included a non-specific submaxillary swelling in a 45 year old male, a bilateral cleft lip in an 8 year old boy and amelogenesis imperfecta in a 7 year old girl. Treatment was performed on the girl and suggestions for optimal specialist treatment were explained to the others.

This was the second journey to the USSR for these

Alaskan dentists. In the 1990 exchange, the towns of Pevek, Bilibino and Anadyr were visited in the Chukotka Region. On both occasions, we have been extremely impressed with the educational and scientific background of the Soviet stomatologists. Their ability to dedicate themselves to their patient's needs despite the hardships of limited equipment and materials is admirable. Their keen interest in sharing ideas about new and different techniques in the dental world is obvious. Their conduct in all given situations has been strictly professional. It has been an intensely pleasurable experience to participate in these events.

## RECOMMENDATIONS

Here are some brief suggestions for the benefit of future dental exchanges between Alaska and the Soviet Far East:



Demonstration of dental procedures

1. We would like to learn more about the Soviet methods of dental treatment which involve water, electrical, and physiotherapies. These fields are not generally used in the United States and the amount of Soviet research available would offer an excellent opportunity to educate ourselves.

2. We would like to see more of these types of educational trips attempted with portable equipment. Different hospital, clinic, and possibly village locations would be the next logical places to present these demonstrations. Grants or sponsors should be approached to help alleviate the financial burden of these trips.

3. We eventually hope that these exchanges would lead to long term internship-type programs and rotations between corresponding hospitals, dental schools, and clinics. Longer time periods at selected sites are needed to conduct teaching and training sessions for larger groups of people.

4. American dentists should consider attending the Magadan Annual Stomatology Meeting to share information on techniques for a larger group of stomatologists.

## SUMMARY

During our visit, we experienced the attempted coup on the Soviet government. This event threatened the very existence of the medical/dental exchange program. On more than one occasion we drank a toast to "the last



exchange between our two countries". Now, just as suddenly, the future looks brighter than ever! The continuation of this vital link appears certain.

#### ACKNOWLEDGEMENTS

We wish to thank Patricia Longley Cochran of the University of Alaska's Institute for Circumpolar Health Studies and Alla Nikitina of Magadan Regional Department of Health for their efforts in arranging this valuable

international dental exchange. Also instrumental in our exchange were Dr. David Jones (Alaska), Drs. Yagzheva, Kapralova, and Gorodelskays (Magadan, USSR). We have been honored to participate in this program and we hope that in this historic beginning we were able to show the potential that is now possible for other dental professionals who will surely follow. It is our wish that many more dental participants will experience a similar sense of professional and personal fulfillment that we have had during these memorable travels.

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# Report of Oral Health Situation Analysis in the Magadan Oblast of the Russian Federation

A Joint US/Russian Project in Collaboration with the Oral Health Programme, World Health Organization

#### ABSTRACT

In July 1990, an oral health team from Alaska visited the Magadan Region of the Soviet Far East in a medical exchange program organized by the Institute for Circumpolar Health Studies in Anchorage, Alaska. During this visit, discussions were held regarding possibilities for future collaboration in oral health issues. As plans for such collaboration evolved, interest developed at the more central levels of the Russian and Soviet health infrastructure. As a result, the Oral Health Unit (ORH) of the World Health Organization (WHO) received requests to participate in the project from the Ministries of Health of both the Russian Republic and the Soviet Union. ORH was asked to help develop and implement "a large-scale project for prevention of dental caries in children living in the Far East and Far North of the (Russian) Republic who have a special need of preventive care in view of the high prevalence of dental caries in those regions."

As little oral health data was available specific to the Magadan Region, a situation analysis trip to the Region was made in April 1991. The purpose of the trip was to gather data concerning oral diseases epidemiology, demography, and health systems of the communities of

Magadan, Seymchan and Provideniya as the basis for recommendations and plan development.

The data was collected over a two-week period, using standard WHO methodology. The analysis team examined children in the age cohorts of 3-5, 6-7, 12 and 15 years. In addition, adults aged 35-44 and 65-74 years were examined in Magadan and Seymchan.

The data collected reveals that for various and complex reasons, this part of the Soviet Union has not enjoyed the steep decline in the prevalence of the primary oral diseases, dental caries and periodontal diseases, which some other industrialized countries have experienced. Specific recommendations have been forwarded to local community and health officials. The project is ongoing, and includes involvement of the private sector. A dental working group has been formed in Alaska, and is developing plans to collaborate with their colleagues in the Soviet Far East to provide assistance in designing and implementing an effective program for the prevention and treatment of oral diseases.

*EDITOR'S NOTE: The full report is due to be published at a later date.*

# Reports of the Soviet Expedition Members

According to agreements signed in October, 1988 and April, 1991, and by the invitation of the Administrator of the Institute for Circumpolar Health Studies, Ms. Patricia L. Cochran, a delegation of 22 medical people from Magadan were in Alaska, USA from August 5th to August 15th, 1991. Dr. Alla Nikitina, the Deputy Minister of Health for the Magadan Region, was the leader of the Soviet delegation. To involve the Ministry of Health Care of Russia and have financial support for our mutual scientific-practical cooperation between the State of Alaska and the Magadan Region, a Deputy Minister of Health of Russia, Dr. Nikolai Vaganov was included in the delegation as a member. Highly skilled specialists took part in this expedition.

Some areas of concern have been set for the members of the delegation, in planning for future programs of collaboration. The important tasks on which the delegation has been working are:

- The formation and organization of health care insurance
- The organization of special medical care for children
- Psychiatric and narological services
- Surgery and anesthesiology
- Organization of a burn center
- Nontraditional methods of treatment
- Ophthalmology
- Environmental and epidemiology issues
- Family planning
- Emergency care

The delegation visited Anchorage, Juneau, Nome, Kenai, Fairbanks, and King Salmon. The presentation of the delegation was done at UAA. The Mayor of Anchorage, Mr. Tom Fink; Chancellor Behrend of the University of Alaska Anchorage; Administrator of the Institute for Circumpolar Health Studies, Patricia Cochran; Coordinator of ICHS, Nancy Edtl Mala; and Deputy Commissioner of Health and Social Services of the State of Alaska, Dr. Brian Saylor attended. The Commissioner of Health and Social Services, Dr. Ted Mala, addressed the group at a later meeting.

## HEALTH CARE SYSTEM

A.N. Nikitina, MD  
N.N. Vaganov, MD  
V.I. Naroditski, MD  
V.N. Guriev, MD  
L.N. Lobosok, MD  
M.Y. Shenkao, MD

Health care administrators became familiar with the following programs:

- Organization of Emergency Services on the Kenai Peninsula
- Organization of family practice doctor activities
- Principles of medical care of the Native population (Indian Health, Nome Hospital)
- Principles of medical insurance
- Organization of Emergency Services at the Alyeska Pipeline Service Company



Soviet Delegation in Alaska, 1991 Alaska-Magadan Medical Expedition and Exchange



Many elements of family practice services will be introduced in the Magadan Region as a result of this experience.

The Soviet side was interested in the structure of the Department of Health and Social Services of the State of Alaska. In Russia, particularly in the Magadan Region, a program combining the Health Care Institutes and Social Services has been studied carefully. In the future, Magadan will be interested in a study of the medical care insurance system.

The purchase of dental equipment for \$64,000 was made, and has been paid for. There was agreement on the future cooperation in the Emergency Service area.

## **PSYCHIATRY AND NARCOLOGY**

**V. Lisenko, MD**

V. Lisenko, chief narcologist of the region was acquainted with the system. During the visit, a preliminary observation of the possibilities and perspectives in the development of a service was made.

There appeared to be some problems, relating to treatment approaches, philosophical concepts, and terminology, making specific conclusions impossible.

The health care delivery system in Alaska is made up of five subsystems:

- The private sector
- The military
- The US Public Health Service; Indian Health Service (IHS) known as the Alaska Area Native Health Service (AANHS)
- The Native Regional Health Care Corporations
- The State of Alaska

Each of these subsystems gives the narcologic aid to people according to their own directives. For example, the Bartlett Hospital in Juneau has a well-equipped narcology unit. Some programs in this unit are 28 day detoxification, outpatient and inpatient services, and special homes out of town (residential treatment). Patients from Juneau and its surrounding areas are treated there. There are some private narcologic and psychiatric clinics in Anchorage. The branches of the Armed Forces have preventive medicine sections which have been active in projects such as smoking control.

There is an interesting system for pregnant women who have an alcohol or drug problem in Alaska. It looks like a very interesting system with stages of treatment. The work of volunteers from Salvation Army as a part of all narcologic aid programs is also of interest.

Another program begins with the delivery of patients by emergency services, doing a detoxification treatment, then doing a rehabilitation course until joining an

Alcoholics Anonymous group, so it seems to be a complete program.

There are serious problems with alcohol abuse among the Native peoples in Alaska, as in the Magadan Region. Many native villages have made decisions about alcohol prohibition. The Department of Health and Social Services provides health education services to people of the native villages for the prevention of alcoholism and suicide attempts.

There is a very interesting program for prevention of "Fetal Alcohol Syndrome", and is providing education for teenagers, and aiding pregnant women who have alcohol problems (Dena A Coy Home).

It is necessary to have a continual deep study of drug abuse problems in both our regions, as well as the exchange of the positive results.

## **SURGERY AND ANESTHESIOLOGY**

**V.P. Boytsov, MD**  
**S.A. Kostyukovich, MD**  
**A.V. Prohorov, MD**  
**S.V. Klymenov, MD**

The complete picture of surgical services and their range was not been done because the time of the visit was unexpectedly cut short. It was not possible to be as familiar with hospitals and with different departments of hospitals as planned. The acquaintance with surgeons was superficial, and happened only during the surgical procedures.

But nevertheless, based on the information obtained, it is possible to talk about a high quality of surgical and trauma services. The modern, less-traumatic technology such as endoscopic arthrotomy, cholecystectomy and endoscopic reconstructive and recovery procedures, which allow a discharge of patients out of the hospital quickly, is available in Alaska. All these methods are appropriate to the world standards and all of them are absent in our region.

Complex operations are available in Anchorage hospitals, including heart transplantation and cardiac shunt procedures; this confirms again the vast capabilities of the surgical units. A distinguishing feature of the surgical profession is the constant control of all procedures by the Association of Surgeons which increases the responsibility and accountability of surgeons. A widespread computer connection has enhanced this.

Applying modern methods of treatment has allowed refusal of traditional methods of treatment such as urolithiasis. Use of ultrasound hydroacoustics equipment allows options for treatment and rehabilitation of urologic patients. The surgical units of hospitals are equipped with excellent diagnostic and medical equipment. Most instruments are disposable.

Concerning the operating room, work is efficient,

well-supplied and well-organized despite the patient being admitted only a short time before. Hospital stays are quite minimal for patients. The pre-operative period is a few hours, as a rule, with a post-operative period of not more than three to four days after typical abdominal cavity procedures. Insurance companies have guidelines for hospital stays that seem to encourage shorter stays.

The medical care for the Native population has reached a high level, especially regarding tuberculosis. The low number of Tuberculosis cases indicates that the problem of surgical forms of the disease has been solved in Alaska. The few cases of TB found seem to be related to social/economic conditions.

The number of parasitic diseases among the Native population are more sporadic in nature and the number of procedures for echinococcosis is not more than three to four per year. The surgical care of Native people, by the example of Nome and its region, shows the fact of providing aid in several ways.

There is a surgical unit provided with the necessary equipment in Nome. According to the staff, there is no surgeon in the hospital and in case of emergency surgical disease or trauma, the surgeon is called from Anchorage. In some cases, a patient needing surgery is transported to Anchorage. As for Nome, a general physician does only small surgical procedures (first surgical care, extraction of first-stage tumors or lancing of abscesses). The range of surgical aid given by general physicians is consistent with the areas needs, and the organization of work parallels that in our country. But, what is distinctive in a small town hospital? It is the equipment. The small hospital is equipped as well as a large one, according to the needs, of course.

Judgements about the speed of emergency help is not available, because the analysis of this work was not submitted. The current methods of surgical aid to the people of Nome is quite good and already working well and does not require any changes.

## CONCLUSIONS

1. The surgical care is on a high level, the modern, less-traumatic methods of treatment are widespread as well as non-surgical methods of treatment.
2. A positive feature is the constant monitoring of procedures and medical work of the surgeon.

During future expeditions of Soviet surgeons, it is necessary to create more working conditions for the exchange of experiences, to give the opportunity for studying results of treatment, and to have a joint conference on the organization of surgical aid.

## EMERGENCY SERVICES

N.N. Vagonov, MD  
S.V. Kleymentov, MD  
S. A. Trebuhovski, MD

The emergency service was studied in a practical way, on the Trans-Alaska pipeline with the Alyeska Pipeline Service Company, where cases of mass injury are more probable.

The oilfields, where the pumping begins, are located at Prudhoe Bay. There is a central hospital with ten beds. Medical personnel are represented by three physicians assistants and two nurse practitioners. If it is necessary there is space for 60-70 beds. There is all the necessary equipment for emergency aid and for simple operations, and a supply of medicine and bandages.

During normal days, the hospital staff do preventative examinations and treatment of employees, as well as hold courses of self- and mutual help with employees of the central station. The hospital has three fully equipped ambulances, each of them is equipped for the emergency care of three people. There is a medical helicopter at the hospital. If necessary, in a short period of time, the civil air forces can be used for transportation of patients and medical teams.

The equipment in each ambulance is: a cardiomonitor with defibrillator, an electrical suctioning unit, oxygen cylinders (one cylinder provides 20-40 minutes of oxygen), a set of splints, a supply of medicine, a pneumatic mattress for patient transportation, equipment for immobilization of the spine, and medical supplies. One person is responsible for the maintenance of the ambulance, the medical equipment and the condition of the medicine.

There are rooms equipped with similar equipment at each station. Every new employee receives instruction in a 12-hour program of self and mutual aid and once a year is retested.

The room managers are paramedics with two years of special training, and once a quarter receive a 12-day advanced training program. CPR training for workers is given in a one-day course. First aid can be given immediately because the aid rooms are located so close to the labor units. If necessary, the patients are transported to the Central Hospital in Prudhoe Bay or to Fairbanks by helicopters or civil aviation planes. The only limitation of helicopter flights is a high winds. During conversations with American colleagues it was discovered that the concepts of medical care of main pathologic states are similar and the level of knowledge of problems are approximately similar. As far as the technologic level of equipment of operation and critical care units is concerned, it is much higher in the USA.

The theoretical knowledge level of physicians of the USSR and US is approximately the same, but the theoretical knowledge and practical skills and responsibility for the



work of nurses in the US is much higher. There are 2.5 times fewer nurses in Anchorage critical care units than there are in the Soviet Union while the volume of work each one does is much higher.

Anesthesiology nurses do anesthesia themselves, including intubation and different types of conducted anesthesia, and have full responsibility for the job they perform. Nurses perform a high level of post-operative care and monitoring. There is a vast difference in the administration of medications since the Anchorage nurses are trained to use machines that are programmed to give exact dosages of medication at an exact time over a certain length of time. The job of nurses in critical care units is highly mechanized. Nurses do not spend time cleaning equipment and most instruments are disposable. Relatives of the patient are allowed to come into the room and help take care of them because infection problems within the hospital are minimal. Nurses do many small procedures and treatments, excluding the placement of subclavian vein lines. The patient's time spent in critical care units is reduced to the minimum because the price of treatment is so high. The circulation of patients through these beds is, accordingly, much higher for that reason. Intensive care physicians are paid very well.

After our trip to Alaska, we became convinced that it is possible to do the following in Magadan:

1. Prepare a course of training on resuscitation methods and bleeding control procedures, based on the 12 hour program, for police and fire department employees; and in the future for other department's or enterprise's employees. The training has to be based on economic accountability. This is possible by using the skills and experience of physicians who work in the critical care units at the regional hospital as soon as we receive training mannequins and make a contract.
2. To supply the police car and fire truck teams with simple equipment for CPR, and oxygen cylinders with masks.
3. In the future, teach those teams to do the placement of subclavian and femur vein lines, and to supply cars with some infusion solutions and anti-shock medications.
4. Theoretically, it is possible to train these teams based at the regional hospital's facilities, depending on accountability.

## BURN TREATMENT

S. A. Trebuhovski, MD

The aim of this business trip to Alaska was the mutual discussion of questions of tactics for treatment of burn patients.

In Anchorage, the special medical care for burn patients is provided by the burn center of Providence Hospital which has the capacity for simultaneous treatment of eight patients. It is worth mentioning the high level of technology and use of artificial and biological grafts, modern ointment and cultivated epidermic culture.

Anesthesiological equipment is used to treat shock very effectively and to correct the appearing disturbances. The qualifications of nurses allow them to do treatment such as the bandaging of burn patients and partial necrotomy, etc., without the constant supervision of a physician.

The mutual work with Dr. William Wennen in Fairbanks was very useful. In detail, the question of tactics for treatment of burn patients according to the stage of burn diseases, as well as surgical aspects of treatment, have been discussed. It is worth mentioning that the tactic of active surgical treatment, as well as early necrotomy, is being developed at the Magadan Regional Hospital as a result of purchasing the necessary equipment and the organization of a burn center. The stages of treatment of burn patients has



Patient undergoing hand reconstruction using Ilizarov apparatus

been studied, and they are practically identical to those in our country.

During conversations, the question of reconstructive surgery and rehabilitation were discussed. Dr. Wennen was pleased to give us the opportunity to meet with some of his patients, and to become familiar with special literature. But, due to a time deficit, all these questions were not studied deeply.

Accordingly, on this business trip it was able to make the following conclusions:

1. The theoretical and practical training of USSR and USA physicians is similar.
2. The level of training of nurses is much higher than in the USSR.
3. The time of treatment in the burn beds is much less than in USSR due to concerns with the expensive price for treatment.

The exchange regarding the burn treatment program is useful and requires future development.

## **NON-TRADITIONAL METHODS OF TREATMENT**

**V. G. Goryachkin, MD**

In an interesting meeting with the Association of Native healers of Alaska, the questions of non-traditional medicine were discussed as well as herbal treatment. I visited a private family chiropractic clinic which uses the same methods of treatment we use in our clinic of Oriental medicine in Magadan.

### **RECOMMENDATIONS**

1. The exchanges of delegations of Native healers should be continued, as well as the description of non-traditional methods of treatment.
2. It is very useful to make exchanges by videotape, describing the diagnostic methods, as well as to preserve the traditional heritage.
3. The discussion of questions with private family chiropractic clinics, such as needle-reflexology therapy, electro-reflexology therapy and Tibetan medicine should be arranged.
4. It would be good to know about medicinal herbs of the Magadan region and Alaska and their uses in Native medicine.
5. Magadan considers that it is necessary, due to the mutual interest in all the above mentioned methods, to work out a separate program of non-traditional methods of treatment.

### **ENVIRONMENTAL AND EPIDEMIOLOGY**

**A.A. Rubtsova, MD**

**G.B. Lebedev, MD**

**P.N Karpov, MD**

It was possible to understand the system of a working epidemiology department as a part of the Department of Health and Social Services in general. We have been acquainted with the Environmental Department as well as the section of epidemiology control and inspection for the condition of food preparation areas in restaurants, food enterprises, schools, hospitals, etc.

During the meetings at the Environmental Department many directions of work have been discussed regarding hygiene and epidemiology. All these questions are regarding the prevention of diseases, especially an infectious disease, as well as injuries. They are considerably similar to those we used to discuss in our department as a part of a State program of epidemiology.

This contact with specialists of the department regarding the learning of normative paper and the principles and approaches for examination of objects is especially important now, since the number of joint-ventures is increasing all over Russia, including the Magadan region.

There are many hygienic-epidemiology concerns and questions for the people of the regions, tourists or other specialist exchanges. In working with these epidemiologists, some questions have been clarified such as the reduction and prevention of some infectious diseases.

The principles of statistical work on data are a little different, but the high rate of incidence in Alaska and Magadan of such infections as hepatitis A, tuberculosis, venereal diseases, and measles appears to be a mutual problem. There are some identical problems on the prevention of AIDS and vaccination.

By finding the common principles of the spread of diseases in the similar climate conditions of both territories, it is possible to study the epidemiology of some diseases and to work out the methods for prevention. Natives as a newcomer population should be considered. It was established in the preliminary agreement to study the epidemiology of Hepatitis A and measles among the people of Magadan and Alaska.

### **FAMILY PLANNING**

**E.Y. Kuznetsov, MD**

Work was done and plans made for future collaboration at the center of Family Planning in Juneau, Alaska. The Family Planning Center mainly works with the issue of contraception. At the present time, six progesterone sticks, 0.1 to 0.2 cm in diameter, can be implanted in the lower third of the upper arm for five years with an effectiveness of 98-99%. American physicians refrain from using the IUD (Intrauterine contraceptive device) and recommend using a hormone contraceptive. Sterilization for women and men is also widespread.

Proposal: Inquire about the opportunity of purchasing the above-mentioned progesterone sticks. All other contraceptive methods are used in Magadan. There are early pregnancy test kits available. The method is simple and the price of one test kit is 50 cents.

Proposal: If it is possible to buy 5 to 10 thousand early pregnancy test kits that will allow the testing and early diagnosis of pregnancy for a period of four to six years. The Family Planning Center does not work on the problem of barren marriages and does not have statistical data regarding that question. Usually the private physicians and gynecologists do that kind of treatment and there is no specialist for only this problem in Anchorage.

Proposal: Send to the Institute or Department of Health and Social Services an invitation to visit Magadan for a group of gynecologists and urologists from Anchorage. We are ready to show them the practical work of the Family Planning clinic concerning the complex treatment of barren couples using medical, laser and physiotherapeutic and nontraditional methods (acupuncture, etc.) of treatment.

I have been acquainted with the services of Confidence



Telephone which is called Crisis Line. This is a twenty-four hour service and people who work over there are volunteers who received special training in psychology. Mostly this service is busy with alcoholism problems and suicide related to alcohol intoxication. This service has a small hospital of 18 beds where the patients are admitted by their own agreement.

Proposal: Taking into consideration our resources, we should be attracting volunteers (as far as I am concerned, they must be students of the Psychologic Faculty of the Teachers Training College of Magadan) to work at this service. The service of social-psychological aid must be opened in Magadan as soon as possible.

## OPHTHALMOLOGY

O. N. Tsoi, MD

The aim of the trip was to become acquainted with the clinic and work of Ophthalmologist Dr. Marvin Grendahl, a 1990 Alaska/Magadan Expedition member, and to become familiar with the treatment of the initial stage of cataracts as well as on the vitreous body and retina.

The clinic of Marvin Grendahl is a private outpatient clinic. The staff is one physician, one nurse, one secretary, one receptionist, one cashier, and one administrator, for a total of six people.

The clinic has four diagnostic rooms all similarly equipped. The diagnostic rooms have equipment for the examination of the acuity of vision into the distance and up close; lens set; slitlamp; electro-ophthalmoscope; equipment for examination of refraction and angle of strabismus and astigmatism and test of intraocular pressure.

The nurse does the preliminary exams, such as the test of acute vision, a test of intraocular pressure, a perimetry, and testing for glare and contrast sensitivity. The physician does the final exam and if necessary makes a picture or diagram of the fundus of the eye, makes the diagnosis, and makes a prescription.

There is an outpatient operation room equipped with a microscope, and a laser room with a YAG-laser in the clinic.

In the outpatient operation room, procedures can be performed on the anterior point of the eye using a keratome, or the injection of antibiotics into the subtenons

Three days a week are usually for appointments. Two days a week are for surgery at Humana Hospital. Procedures include intraocular lens transplants, antiglaucoma and strabismus treatments, and laser procedures for closed-angle glaucoma and secondary cataract.

I took part in surgery as well as in outpatient clinic work. During my visit, there were 150 patients, including 30 operations, 20 cataract surgeries with intraocular lens implants, and five with cataracts, 2 keratotomies, and 8 laser treatments. I worked with the surgical microscope and diagnostic complex and with the YAG-laser and Argon-laser.

The determination of astigmatism right on the operating table after the cataract surgery with a intraocular lens transplant is an innovation in diagnostics.

Innovations in the treatment of ophthalmologic patients are the emulsification of immature or initial cataracts by different methods as well as intraocular lens implants through an incision of 4mm, and bifocal intraocular lenses.

The peculiarity in the treatment of ophthalmologic patients is the absence of physiotherapeutic treatment. The emergency aid is usually done by physicians on call, as it is in our country. The division according the city districts is symbolic. Patients can choose the doctor themselves.

The education programs at Dr. Grendahl's clinic are on a high level. There are many booklets, magazines, even videotapes about glaucoma and cataracts. Sclera-strengthening procedures are not widely used, and only in the presence of scleral staphyloma. Closed-angle glaucoma is treated by peripheral iridotomy and with a laser.

## CONCLUSIONS

After buying modern equipment from Alaska, an opportunity to do procedures of the translucent initial cataract and vitrectomy will be available. It is very important to get training from an American specialist because they have modern technology and the procedure on the ciliary body is available during the entire year and they are unique. With modern equipment, the diagnostics will be better and consequently the treatment will be in time, and ophthalmological care will improve.

Having modern equipment will increase the carrying capacity in a diagnostic room and operating room. There is no difference between both of our countries in the number of patients and diseases. We have some problems with myopia, cataracts, and diabetic retinopathy and so the American equipment will be fully utilized.

The Magadan Department of Health is ready to send the chief physician of the ophthalmology department of the Regional Hospital for additional training with Dr. Grendahl after purchasing the needed equipment.



Pediatric clinic in Anadyr

## NEONATOLOGY AND PEDIATRICS

N.T. Prohodyko, MD  
O.L. Pozdnyakova, MD  
L. Sergeeva, MD  
N. Novikova, MD  
V. Naroditski, MD

During our visit to Alaska the work proposed by American colleagues has been accomplished. We were acquainted with the organization of the medical care system of Alaska, as well as with work of medical institutes, in particular with organization of neonatology services at Providence Hospital.

We were successful in understanding the general principles of medical care of newborn babies, beginning from the prenatal period and through the period of rehabilitation in the Neonatal Intensive Care Unit (NICU) at Providence Hospital.

Conversations with specialists established that American and Soviet physicians share similar problems in the nursing of prematurely born babies (weighing from 500 grams or about 1 pound). Due to the high level of equipment and medicine provided (especially the availability of surfactant for intravenous injections) these problems are resolved better and with a lower mortality rate. The absence of artificial surfactant for IV injections in the USSR does not allow a reduction in the mortality rate among the group of low-weight babies suffering from "pneumapatia" (underdeveloped lungs).

The problems of treating babies with intrauterine infections are quite similar. But the fast identification of the infectious agent makes the American physician's work easier; as for Soviet physicians, we are deprived of that completely.

The methods for examination of pregnant women having a long period of being without amniotic fluid are similar to the examination of these women in Magadan. Congenital defects are rarer in Alaska due to the fact of prenatal diagnostics of that pathology which influences the rate of infant mortality.

In the US, the hemolytic disease of newborn babies is almost absent, which is due to the use of antirhesus gamma globulin (Rhogam) for the prevention of antibodies in women. It is given just after abortions and the first delivery of those who have Rh factor of the blood. This problem can be solved in the Magadan Region only by having enough of that medicine and having obstetric personnel trained accordingly.

The question regarding the rate of delivery traumas (especially spinal traumas) has been an extreme surprise, because there is not that type of trauma in the US, which says much about a high level of obstetric care.

The intraventricular bleeding of premature babies, causing a high percentage of the mortality rate, is a serious problem for Providence Hospital as well as for the Magadan

Hospital. The question about nosocomial infections has been solved owing to the fact of disposable clothes and instruments. It is worthwhile to pay attention to the differences of the epidemic regime such as the absence of a mask regime, an abundant use of deodorizers, the careful washing of hands of medical persons and free visiting of patients by relatives.

It is worth mentioning the high level of nurse's training, which can be achieved by many years of training in neonatology. An employee of the neonatology department can be only a highly-skilled specialist, in comparison with a Soviet colleague, where the employees have been trained in that department and working at the same time.

The group of pediatricians and neonatologists would like an introduction to the following subjects: Pediatric hematology; methods of rehabilitative treatment for children with neurological pathology; and medical supplies for newborn babies. It was impossible to organize a meeting with pediatric hematologists and neuropathologists from the American side, but Magadan specialists were very much interested in the study of this pathology. We would like to ask the Institute to connect us with particularly these specialists from Seattle, Washington.

The work of pediatric neonatologists was very productive. They have been acquainted with methods of newborn baby treatment in Anchorage and Kenai. As a result, Magadan is interested in developing an individual program on this subject.

## ACKNOWLEDGEMENT

The Department of Health and all members of the medical expedition team express a great appreciation to the Department of Health and Social Services in the person of Commissioner Ted Mala as well as to the Institute for Circumpolar Health Studies, UAA in the person of Administrator Patricia Cochran, and the Expedition Coordinator of the program, Nancy Mala and to those who took part in the expedition's work for their productive and intensive cognitive program and their cordial friendly reception. We hope for future cooperation for the good of health care of the Alaska and Magadan regions.





# The Commitment Continues

- *To be there* when you and your patients need us — allowing Alaskans to *stay in Alaska* for their care.
- To join with you in an effective effort to improve the health care environment of our state.
- To work towards better and more efficient ways to be of service to you.



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THE COMMITMENT CONTINUES

# For the Record . . .

## Health Care Reform on the Way to Beleaguered Americans

By Senator Frank Murkowski

Like a man dying of thirst in the middle of the ocean, the American health care system is experiencing a crisis amid plenty. All Americans, including Alaskans, have available the most advanced health care system in the world, but the costs of using the system are rapidly spiraling out of reach. Unless something is done, state-of-the-art medical care could become out of many Americans' reach.

The sheer number of health-care reform proposals turning up these days is testimony to an almost universal perception that the system needs change. Few of these proposals, however, will both make health care more affordable and also preserve the quality and range of choices currently available.

Too many of the current prescriptions for the ailing health care system attempt to reform the system by restraining it from the things that it still does well. Substituting a form of socialized medicine -- with all its attendant bureaucracy -- is too close to the antique treatment of using leeches to bleed "malignant humorous" from an otherwise fairly healthy patient.

A notable exception to these knee-jerk calls for government preemption of the private sector is a proposal developed recently by a Senate task force on health care led by Sen. John Chafee of Rhode Island, entitled the Health Equity and Access Improvement Act of 1991. It is no panacea, which all the participants recognize, but it is a major step forward in rational debate.

As a member of that task force, one of my highest priorities was to lower health care costs while preserving the strengths of the present system. Our approach would maintain such benefits as having plentiful doctors and facilities, freedom of choice in selecting doctors, and incentives for innovative advances in medical technology. At the same time, we would be moving toward a system that is more fair and more accessible to all Americans regardless of income.

Successful health care reform has great implications for Alaskans. Health care costs in Alaska are among the highest in the nation, having tripled since 1980. According to experts, health expenditures in our state are expected to rise from \$1.5 billion this year to over \$10 billion by 2000. An average day in an Alaska hospital currently costs \$1,300-\$1,600; a month in a nursing home costs \$8,000.

These rising costs mirror the trend in health care

costs for Americans in general. As a nation, we will spend over \$660 billion on health care this year, or about 12 percent of our gross national product. Health-care experts estimate that, at the current rate of growth, we will be spending \$9.5 trillion annually by 2020 -- or about 40 percent of our GNP.

Why are health care costs rising so rapidly? Part of the explanation for run-away costs can be found in the aging U.S. population. Another important reason is the success of the health care system itself. Increasingly sophisticated equipment and medical procedures are allowing Americans to live longer and more comfortably than ever before.

Unfortunately, such advances are not cheap. In addition, malpractice insurance premiums and defensive medical procedures performed by malpractice-wary doctors add another estimated \$15 billion to U.S. health-care costs each year.

Partly as a result of these out-of-control costs; it is estimated that between 40,000 and 50,000 Alaskans do not have health insurance and do not qualify for public assisted health care.

Nationwide, between 31 and 37 million Americans -- almost half of them children -- are uninsured or underinsured. Many of these people are not poor enough to receive Medicaid or not old enough to receive Medicare. Fully one-third of the uninsured are employees of small businesses and their dependents.

The Health Equity and Access Improvement Act of 1991 goes a long way toward addressing these problems. It calls for:

- \* Tax credits to help individuals purchase health insurance, and tax deductibility of health insurance premiums. We've suggested a \$600 credit to individuals and a \$1,200 credit to families with incomes under \$32,000 a year to help offset the cost of medical insurance for the working poor.
  - \* Tax credits for small businesses so they can afford to cover their employees and employees' dependents.
  - \* The creation of a public program to allow states to provide care to those whose incomes hover just above the poverty line.
- (continued on page 78)



# M.R.I. - Humana Hospital - Alaska

George H. Ladyman, M.D.<sup>(1)</sup>

M.R.I. has come of age at Humana Hospital-Alaska. M.R.I. is short for magnetic resonance imaging. The concept and basic technology are not new. Experimental work was done on M.R.I. during World War II. It was only until the advent of the age of medical computers that this technology was developed for its present applications. Serious experimentation was done in the early 1970s in magnetic resonance imaging. M.R.I. became commercially available to the community hospital in about 1983. Prior to that time installations were only in medical teaching facilities. A group of investors was formed in 1984 and this technology was brought to the Anchorage medical community in 1985. This was the 68th operating M.R.I. unit in the world. Due to certain state regulations, Humana Hospital-Alaska was unable to install such a facility at that time. Humana Hospital-Alaska did, however, permit us to form this group and allowed us to install the M.R.I. unit on its property. That system was manufactured by Technicare Corporation, a division of Johnson & Johnson. Technicare Corporation has since been sold to General Electric. It was a .6 tesla magnet and served our medical community well during the past almost seven years.

With the ever increasing technological advances, newer and more sophisticated magnets and computers are now available. As of November 18, 1991, Humana Hospital-Alaska had installed and began operating a 1.6 tesla General Electric Signa. The term "state of the art" has been abused and overused in many instances when we speak of scientific equipment. However, if it is still appropriate, the new 1.5 General Electric Signa is certainly "state of the art". This sophisticated equipment is surrounded by a spacious, beautifully decorated suite.

The images obtained by M.R.I. are similar to those obtained by a technology that is now a household word - the C.A.T. or C.T. scan (computerized axial tomography). M.R.I. does not use X-ray but instead utilizes high magnetic fields and radiofrequencies. Although C.T. is an excellent diagnostic technology, M.R.I. has expanded our views far beyond the capabilities of C.T., particularly, into the brain and spinal cord.

Some advantages of the new General Electric Signa M.R.I. are:

1. FAST SCAN - In previous M.R.I. machines, an average brain scan would take at least 40 minutes. A routine brain scan now requires approximately 20 minutes. Moreover, in those critical cases, where necessary, we can do a scan in 30 seconds. While there is some compromise to quality from the normal protocol, this is a tremendous advantage in unstable adults and children.
2. CARDIAC-ANGIO PACKAGE - We now have the capability of doing non-invasive angiography. While the quality still does not equal invasive procedures, it is of a quality that is acceptable by the clinician or surgeon. This is most beneficial to the welfare of the patient in a guarded condition when such information is integral in the course of treatment. Magnetic resonance angiography is also an invaluable screening device in determining whether or not to perform an invasive procedure.
3. SMALL SLICE - Heretofore, our machine only had the ability to do slices of 5mm thickness. The 1.5 tesla General Electric Signa has the capability of doing 1.5mm slices which is advantageous in certain small parts of the body and certainly more specific where extremely small lesions are involved.
4. GATING - We have cardiac, respiratory and peripheral gating. The advantage of this is that we can scan during the non-motion sequences of individual organs such as heart, lungs, abdomen and the related extremities. This allows us to overcome the distortion caused by motion.
5. ADDITIONAL ADVANTAGES. The last five years has brought many improvements and applications of MRI to many additional areas of the body and central nervous system. It is virtually impossible to list all of these improvements and advantages. It should be noted that because of increased technology in both the hardware and software we have greatly improved capability in the chest. Three dimensional reconstruction can now be performed for both the cardiac and angiographic capabilities. The new system allows us to simultaneously scan and assess both temporomandibular joints.

We, in the Department of Radiology, and Humana Hospital-Alaska are extremely proud to bring this most modern medical technology to the Alaskan medical community and the citizens of the State of Alaska.

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<sup>(1)</sup>Chairman, Department of Radiology  
Humana Hospital-Alaska



# American Society for Circumpolar Health

The INTERNATIONAL UNION FOR CIRCUMPOLAR HEALTH (IUCH) has made Alaska its headquarters by opening a permanent Secretariat on the University of Alaska Anchorage campus.

The IUCH office opened its doors on January 13, 1992, and it will function as the Secretariat for the overall organization, which has members in each of the circumpolar countries. The Executive Director of the Secretariat is Dalee Sambo of Alaska.

The objectives of the IUCH are to promote international cooperation in the study of circumpolar health; encourage and support research and exchange of scientific information in the circumpolar health sciences; promote public awareness of the current situation of circumpolar health; and provide a means of communication with other relevant organizations. At present, the World Health Organization (WHO) is represented on the Council of the IUCH.

The purpose of the IUCH Secretariat is to provide administrative and management functions for the overall organization, fundraising, and liaison with national and regional governments in the circumpolar zone, and assistance in the Council meetings and the triennial International Congresses on Circumpolar Health (ICCH). It also works closely with international organizations such as the World Health Organization, the Inuit Circumpolar Conference, and the International Council of Scientific Unions.

The IX International Congress on Circumpolar Health will be held in Reykjavik, Iceland, from June 20-25, 1993. Congresses have taken place in Fairbanks, Alaska (1967); Oulu, Finland (1970); Yellowknife, NWT, Canada (1974); Novosibirsk, USSR (1978); Copenhagen, Denmark (1981); Anchorage, Alaska (1984); Umea, Sweden (1984); and Whitehorse, Yukon Territory, Canada (1990).

The IUCH is committed to ensuring the substantial involvement of aboriginal peoples from all circumpolar nations in its work and circumpolar health issues generally. The indigenous program of the IX ICCH in Reykjavik will be coordinated by the office of Dr. Ove Rosing Olsen (Inuit), Minister of Health and Environment, Greenland Home Rule Government.

In addition to the Triennial symposia, the IUCH has established a number of working groups on specific health problems of the circumpolar regions, including matters relating to cancer, family health, tobacco and health, injuries, and AIDS. The IUCH also collects and disseminates information on

circumpolar health and arctic medicine through the publication of the scientific journal ARCTIC MEDICAL RESEARCH.

## History and Background

As early as the 1960's, medical scientists have been collaborating on Arctic medical research activities. Dr. Earl Albrecht, as Commissioner of Health for the State of Alaska from 1945 to 1956, envisioned an International Union for Circumpolar Health. In 1967 Dr. Albrecht initiated the first circumpolar symposium, which took place in Fairbanks, Alaska. Participants came from the United States/Alaska, Canada, Norway, Denmark, Sweden, Greenland, Iceland, Finland and the (former) USSR. The 1967 participants decided to hold an International Congress on Circumpolar Health every three years.

Finally, in 1981 the IUCH was founded at the meeting of the 5th International Congress on Circumpolar Health in Copenhagen, Denmark. In May 1986 the first IUCH Constitution was drafted and adopted. The IUCH is now an official, formal non-governmental organization. Dr. Albrecht's dream has become a reality. The subsequent activities of the IUCH and its "adhering bodies" have been able to provide an important and useful exchange of Arctic medical research and problems that has been beneficial to people worldwide. The "adhering bodies" of the IUCH include the:

American Society for Circumpolar Health  
Canadian Society for Circumpolar Health  
Nordic Council for Arctic Medical Research  
Siberian Branch of the Russian (former USSR)  
Academy of Medical Sciences

Individual research workers, institutions, associations, or companies may adopt affiliated membership if they are not represented by the four adhering bodies. The decisions of the IUCH are undertaken by a twelve-member Council, the current President of which is Dr. Jens Peder Hart Hansen of Copenhagen.

The IUCH welcomes the participation of all interested persons and organizations. If you would like any further information about the new Secretariat of the IUCH, please contact:

Dalee Sambo, Executive Director  
P.O. Box 141594  
Anchorage, Alaska 99514  
(907) 786-1275  
(907) 786-6166 fax



Spring 92

Dear ASCH Members,

Individuals make up any organization. It is from our individual strength that the American Society for Circumpolar Health (ASCH) builds its networks and coordinates. It is time to think of both the individual and the organization. It is a critical time for leadership within our body.

The Board of Directors officially authorized our delegates to the Council of the International Union for Circumpolar Health (IUCH) to offer to host the Tenth International Congress for Circumpolar Health (ICCH) in Anchorage, Alaska in May of 1996. Dr. John Middaugh and I carried this message to the last Council meeting in Iceland in February.

The nomination and election of officers of ASCH is slated for this summer and fall. Those elected will serve until the Congress in Alaska hosted by our Society. It is critical that we elect individuals who are willing to put in time and effort to assure a successful Congress as well as continue the regular international work to which we are charged. Much is changing within the world of Circumpolar activities and health has become a focus of much concern.

The officers we will be electing will be a President elect, Vice-President, Secretary, and Treasurer. All will take on their responsibilities at our annual meeting this fall. The President elect will become the official President and one of the two delegates to the Council of the International Union for Circumpolar Health at the close of the Ninth International Congress for Circumpolar Health in June of 1992 in Iceland.

The Board has agreed that the existing officers will be made honorary Board members for the three years between Congresses and help to expand the Board for the planning and implementation of the Tenth ICCH. There is much that needs to be done and we will need the assistance of all of our members who wish to become involved. The planning has already begun as Dr. Frank Pauls has contacted the hotels and conference centers to block out rooms for the event. In 1984, when we last hosted the ICCH, the planning started prior to the 1981 ICCH in Copenhagen. Likewise we again are looking at a four year effort to host this every growing prestigious event.

We will need nominations soon for the four officer seats. We will want to present to our members the best possible slate for the positions. We need people who can network with a variety of groups. We need people who can leverage support in direct and indirect ways. We need people who can steer committees and involve others to achieve the goals of the congress.

At this time I would call on any individuals, no matter where you live or work, to contact me if you are interested in serving as an officer of our Society. We will be forming a nominations committee soon and select from those who are interested. We will prepare a slate of at least two individuals for each office. I will be asking each of the existing officers if they plan to run for reelection as none has exhausted their ability to run for an additional term. I would hope that anyone who is interested will offer to commit the time needed over the next four years to build the Society and deliver a top quality congress.

Please take a moment right now. Drop me a post card or letter, give me a call at work 907-276-2864 or at home 907-274-4453 and tell me of your interest and area in which you wish to work. Being part of the planning for such international events is very exciting and rewarding. Relationships are built, projects are completed, and significant contributions are made to the science of improving health in the polar regions. We will need scientific and indigenous program coordinators and reviewers. We will need editors for the proceedings, which is a major contribution of the triennial congresses to the literature on circumpolar health. We will need hosts and hostesses for the international visitors and for a variety of events.

We want all of Anchorage to become involved, and all those in the United States who are interested in health science in polar regions. However, we need to involve our members first. We need to be the committee chairs. We need to get the ball rolling. We need to find the funding and support for the event. We then need to involve all those who are interested and wish to contribute. This process begins today. We need to begin the process to select our officers for that congress in 1996. Think about it and contact me soon.

I do want to thank those who did contact me prior to the February IUCH Council meeting in Iceland. Your comments and ideas, your willingness to take on the roll of contact for our Society is greatly appreciated. If I have not gotten back to you specifically, fear not, I do have your name on a list for further ideas and energy as we begin to form working groups to help with the 9th ICCH in 1993.

Reykjavik Iceland will be the site of the next ICCH. It is currently scheduled for June 20 - 25, 1993. A preliminary announcement has been sent out and a call for papers will be out soon. There will be four parallel sessions during the Congress. Program themes at this time include:

Natural Environment;

Cold and other weather related health risks  
Health and seasonal changes in day-light  
Global changes in climate (e.g. Ozone destruction)

- Social Environment;
  - Domestic Environments
    - Housing, water, sanitation, related facilities
  - Community Environment
    - Transportation and communications
    - Educational policy
    - Health care education, planning and delivery
    - Access to cultural activities
  - Occupational
    - Possibilities of choice and advancement
    - Job mobility
    - Training
    - Social conditions of work place
- Commercial-Industrial Environment;
  - Physical (e.g. pollution)
  - Occupational
    - Hazards (e.g. machinery, working conditions)
    - Disorders (e.g. physical and psychological)
  - Socio-economic Environment
    - Occupational development
    - Exploitation of natural resources
- Family Health and Welfare;
  - Vital statistics
  - Family health and dental services
  - Family Nutrition
  - Health and welfare of mothers and infants
  - Health and welfare of children and adolescents
  - Health and welfare of the elderly
  - Health and welfare of the handicapped
  - Social and psychological problems of the family
  - Suicides, causes and prevention
  - Problems of drug and alcohol abuse
- Epidemiology, preventive medicine and case reports
  - Infectious diseases
  - Vaccination
  - Diabetes
  - Cancer
  - Cardiovascular diseases
  - Respiratory diseases
  - Neurological diseases
  - Mental diseases
  - Diseases of the eye
  - Diseases of the ear, nose, and throat
- Accidents and their prevention
- Health economics
  - Evaluation of health care
  - Economic considerations when prioritizing in health care
  - Ethical considerations when prioritizing in health care
  - The meaning of "cost-benefit" or "cost-effectiveness" in health care

## Health Research in Circumpolar Regions

This is quite a list, however it is preliminary and has only been used for discussion to date. I do believe that it is a clear indication of the breadth of the ICCH. It will be exciting to see how it all begins to come together in the coming months.

As a follow on to all the news on the 9th ICCH, by now everyone who attended the 8th ICCH has received their copy of "Circumpolar Health 90" the nearly 800 page proceedings of the Congress in Whitehorse Canada. At last I can read all the papers that I did not have time to hear or see as there is always too many things going on at any one time. It is an impressive document and just packed full of great information. The Canadian Society for Circumpolar Health is to be commended for a major job, well done.

On to other news. The American Society for Circumpolar Health is co-sponsoring the Alaska Health Summit on April 29 - May 1, 1992. The focus will be to address the Surgeon General's Healthy People Year 2000 objectives. Alaska has many issues that are not considered in the national objectives but that are in critical need. Basic sanitation in regards to the disposal of human and other wastes and access to potable water in our rural communities raises questions that need to be included in the discussion, and yet there is no objective that states anything about such items on a national priority list. I hope that many of you will be able to attend and participate in reviewing the national objectives and making them fit with the needs of Alaska and America's Arctic region.

The Albrecht-Milan Foundation is looking for a few good people. The board still is not full and the Foundation is looking for individuals who have an interest in Circumpolar Health and who want to raise and manage money. The Foundation is looking currently for two groups of people. First, they would like to draw on members of our Society for energy to make contacts and presentations regarding planned giving. Second, they would like to draw on business community members who have managed funds and property that may be deeded or willed to the organization. The Foundation has as a goal a million dollar endowment for the support of the Society's activities.

We each can contribute via direct contributions, making memorial gifts to the Foundation in lieu of flowers or other mementos for friends and family, or by including the Foundation in your estate planning and wills. We feel that if the Foundation is going to grow to be the endowed fund we envision that it will take time, however every dollar today in direct or pledged support will make that goal a reality in the very near future. It has taken a quarter of a century to build the American Society for Circumpolar Health, the International Union for Circumpolar Health, and to establish an office and



Director for the Union. We now need to look at the next quarter century to build a permanent funding mechanism for the activities of those organizations.

It was great to receive the first progress and financial report from the Executive Director of the International Union for Circumpolar Health. On January 2, 1992 Dalee Sambo handed me my copy and we both had a very large smile. Ms. Sambo was happy to have the report ready to go and a full quarter of activity on which to report. I was pleased as it was the culmination of many years of work, hundreds of volunteer hours from all the Council members, and much international financial cooperation and faith to make it all a reality.

At this time money from the Nordic Council for Arctic Medical Research, the Canadian Society for Circumpolar Health, and the American Society for Circumpolar Health flow into three IUCH accounts around the world and are transferred as needed to run the operation of having one staff person in an office to do the work of the Union. It is a feat of volunteer international cooperation to achieve the goal of improving the health of those who live, work and visit the polar regions of the world. It is great to be a part of such a venture and we all have helped make

it work through our membership in this Society. Once more I must say thanks to Dr. Earl Albrecht, Dr. Fred Milan, and all the other founders and builders of these organizations for their futuristic view and indomitable drive.

This brings us back to the importance of the individual for any organization. What our founders and builders have shown us all is that any one of us, with determination and energy, can change the world. I ask that if there are individuals among our membership, or others who would like to join our Society to improve the health of the people of the polar regions, then now is a great time to become involved. We need your interest to be a Board officer. We need your talents and energy to help host one of the most exciting meetings in our part of the globe. Think about it and contact me about how you wish to become part of this ever growing process.

Sincerely;

Carl

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**Precautions:** *General*—1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Dosage should be reduced in patients with moderate to severe renal insufficiency. 3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

**Laboratory Tests**—False-positive tests for urobilinogen with Multistix<sup>®</sup> may occur during therapy.

**Drug Interactions**—No interactions have been observed with theophylline, chloridiazepoxide, lorazepam, loxamine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system, therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 50 mg b.i.d., was administered concurrently.

**Carcinogenesis, Mutagenesis, Impairment of Fertility**—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no unexplained increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose females was within the historical control limits seen for the strain of mice used. The female mice were given doses larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

**Pregnancy—Teratogenic Effects—Pregnancy Category C**—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, elated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, dilatation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular normaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers**—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

**Pediatric Use**—Safety and effectiveness in children have not been established.

**Use in Elderly Patients**—Healing rates in elderly patients were similar to those in younger age groups. However, the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Worldwide, controlled clinical trials included over 6,000 patients given nizatidine in studies of varying durations. Placebo-controlled trials in the United States and Canada included over 2,600 patients given nizatidine and over 1,700 given placebo. Among the adverse events in these placebo-controlled trials, only nausea (0.2% vs 0%) and urticaria (0.5% vs 0.1%) were significantly more common in the nizatidine group. Of the adverse events that occurred at a frequency of 1% or more, there was no statistically significant difference between Axid and placebo in the incidence of any of these events (see package insert for complete information).

A variety of less common events were also reported; it was not possible to determine whether these were caused by nizatidine.

**Hepatic**—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible after discontinuation of Axid. Since market introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid.

**Cardiovascular**—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects.

**CNS**—Rare cases of reversible mental confusion have been reported.

**Endocrine**—Clinical pharmacology studies and controlled clinical trials showed no evidence of anti-androgenic activity due to nizatidine. Impotence and decreased libido were reported with similar frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

**Hematologic**—Anemia was reported significantly more frequently in nizatidine than in placebo-treated patients. Fatal thrombocytopenia was reported in a patient treated with nizatidine and another H<sub>2</sub>-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

**Integumentary**—Urticaria was reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

**Hypersensitivity**—As with other H<sub>2</sub>-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

**Other**—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

**Overdosage:** Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. The ability of hemodialysis to remove nizatidine from the body has not been conclusively demonstrated, however, due to its large volume of distribution, nizatidine is not expected to be efficiently removed from the body by this method.

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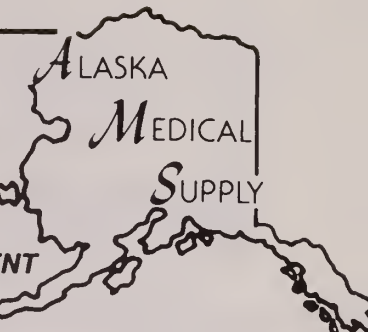
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(continued from page 70)

- \* The expansion of the Community Health Center Program to provide health-care coverage to an additional 7.5 million people.
- \* Of special importance to Alaska, additional assistance to rural areas to improve health care access by increasing funds to assist the education of more health care professionals willing to work in rural areas. This assistance will also improve the quality of managed care and establish mental health outreach programs.
- \* Medical malpractice liability reform, including the development of an alternative dispute resolution system and lowering court costs.

Providing affordable health care to all Americans is one of this country's highest and greatest needs. It's also one of my top legislative priorities. But it is important that we live up to this obligation without weakening our current strengths by forcing the system to stagnate.

Competition and innovation can improve the American health care system if we let them, and our task force proposal takes a big first step.

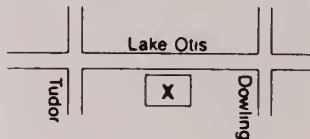
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# YOCON<sup>®</sup>

## YOHIMBINE HCl

**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon<sup>®</sup> is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

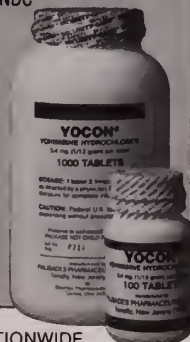
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yocon<sup>®</sup> 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

**References:**

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

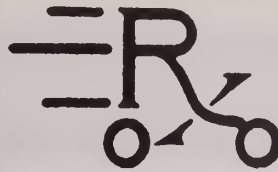
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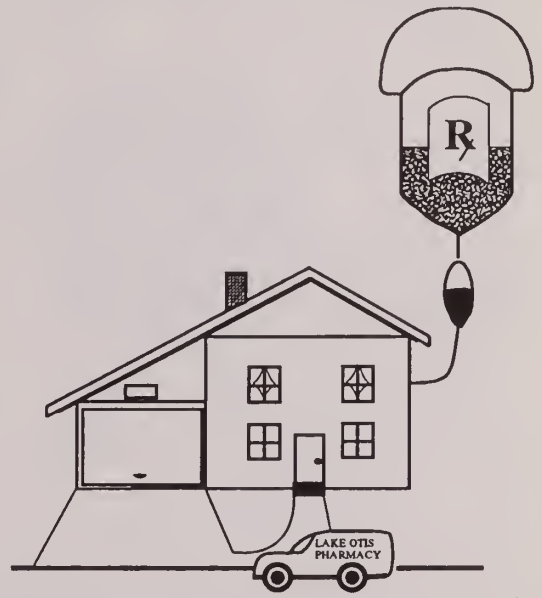
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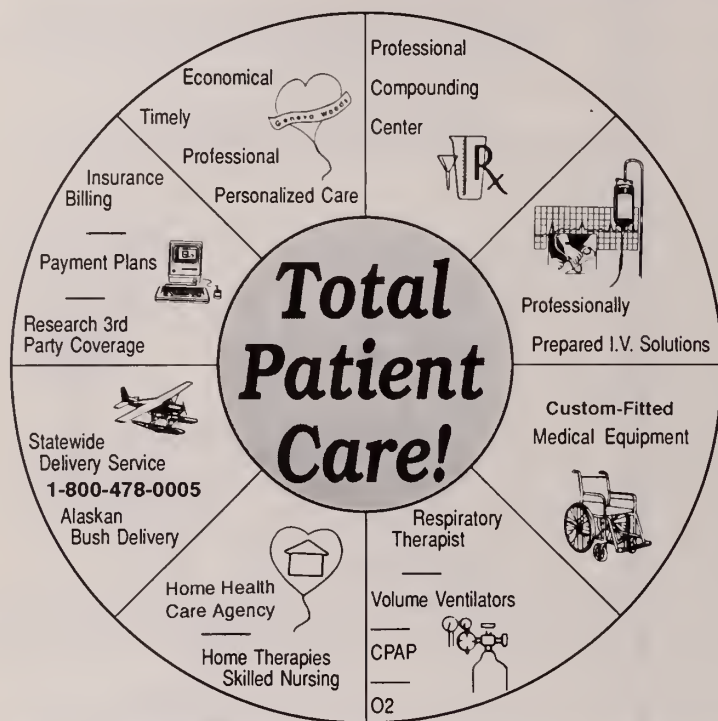
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# In Memoriam

Joseph O. Rude, M.D.

1895 - 1992

A resident of Alaska since 1929, Dr. Joseph O. Rude died in January at the age of 96.

Dr. Rude was born April 13, 1895, in Gary, Minn., a Norwegian community. He didn't learn to speak English until he started school.

During World War I he served as a hospital orderly in the Fort Sill Base Hospital. He resumed his high school studies at the age of 24, and matriculated at the University of Minnesota in the fall of 1921. That same fall he was married to Amy Brekke.

He received his medical degree in 1929. The young couple had hoped to go to Peru as medical missionaries but when that was not possible, the Rudes and their three children traveled to Seattle by train and to Ketchikan by boat, where their fourth child was born.

They soon moved to Petersburg where one of his sons, Dr. Donald Rude, recalled, "Dad had to rely on his knowledge and his books as there was no such thing as air evacuation and only a slow boat to Seattle or Juneau once a week."

The family moved to Juneau in 1941, and he continued practicing for some 48 years. After his semi-retirement he made more than 200 bi-weekly visits to Skagway, which was without a doctor, and also held a clinic regularly at Haines.

When he received the Christian Citizenship Award from Sheldon Jackson College in 1966, it was noted that "emergency trips by plane and boat to outlying villages, towns, lumber camps and fishing boats were a regular part of his medical service."

On one occasion the mothers and children he had delivered put on a big party for him, and on his 90th birthday a large party was held in his honor at the Juneau Centennial Hall. A few weeks later he received an honorary doctor of humanity degree from the University of Alaska.

His free time was given liberally to many causes. He was active in the Lutheran Church, served on the Petersburg and Juneau school boards and was instrumental in ending segregation of Indian and non-Indian schools.

Hugh Nesbitt, a Southeast Alaska Boy Scout Council executive, in 1966 called Dr. Rude "one of the most dedicated men that the Southeast Alaska Boy Scout Council has had helping them. . . throughout the past 25 years he has probably done more than anyone to help keep the financial program from dropping out of sight."

Dr. Rude was a member of the Scout council executive board; a charter member of the Juneau Lions Club;

U.S. Public Health Surgeon for the U. S. Coast guard; an active member of the Alaska sportsmen, and the Juneau Chamber of Commerce; a member and instructor in the Juneau Yacht Club; was on the Juneau Library Board and the Girl Scouts council; and was on the board of directors of the Salvation Army and Alaska Federal Savings and Loan. He was an active member of the Alaska State Medical Association, and in 1970 received the Community Service Award.

A devoted skier, he made national news when, at the age of 90, he was featured in *USA Today* as a recreational skier at Juneau's Eaglecrest Ski area.

He loved boating, fishing, hunting skiing, hiking and picnicking. He climbed Baird Glacier while in Petersburg, and on their 40th wedding anniversary he and Mrs. Rude climbed Mt. Jumbo on Douglas Island. He made his last moose hunt at age 92.

In 1964 he volunteered for service in Bolivia, South America. He worked at the Instituto Americano at Cochabamba where students were examined, TB tests given and clinics held in small, outlying adobe churches.

In 1970, because of illness, Mrs. Rude could no longer be taken care of at home. Dr. Rude went faithfully to the nursing home to feed her three times a day for the next seven years.

Dr. Rude fully retired from the practice of medicine after his stroke in November 1988, when he moved to the Sitka Pioneers Home.

He requested that the following "Rude version" of the 23rd Psalm be read at his funeral.

The Lord was my shepherd; I was never in want.  
He made me lie down in green meadows, and led me to many mountain streams.  
He revived my soul, and guided me along life's path for his name's sake.  
Now I have walked thru the valley of the shadow of death, but I feared no evil for he was with me,  
His rod and compass comforted me.  
He spread a table before me in the presence of my friends (I had no enemies).  
Thou anointest my bald head with oil; my cup always ran over.  
Surely goodness and mercy has followed me all my days, and I am now living in his house.

Amen

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**BRIEF SUMMARY**

**Contraindications:**

< 90 mm Hg systolic blood pressure (when a beta-blocker is present), 2nd- or 3rd-degree AV block (with or without pre-excitation), hypersensitivity to verapamil.

**Warnings:**

Verapamil should be avoided in patients with severe LV dysfunction (eg, ejection fraction < 30%) or moderate to severe symptoms of cardiac failure and in patients with any degree of ventricular dysfunction if they are receiving a beta-blocker. Control milder heart failure with optimum digitalization and/or diuretics before Calan SR is used. Verapamil may occasionally produce hypotension. Elevations of liver enzymes have been reported. Several cases have been demonstrated to be produced by verapamil. Periodic monitoring of liver function in patients on verapamil is prudent. Some patients with paroxysmal and/or chronic atrial flutter/fibrillation and an accessory AV pathway (eg, WPW or LGL syndromes) have developed an increased antegrade conduction across the accessory pathway bypassing the AV node, producing a very rapid ventricular response or ventricular fibrillation after receiving I.V. verapamil (or digitalis). Because of this risk, oral verapamil is contraindicated in such patients. AV block may occur (2nd- and 3rd-degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with verapamil.

**Precautions:**

Verapamil should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Verapamil may decrease neuromuscular transmission in patients with Duchenne's muscular dystrophy and may prolong recovery from the neuromuscular blocking agent vecuronium. It may be necessary to decrease verapamil dosage in patients with attenuated neuromuscular transmission. Combined therapy with beta-adrenergic blockers and verapamil may result in additive negative effects on heart rate, atrioventricular conduction and/or cardiac contractility; there have been reports of excessive bradycardia and AV block, including complete heart block. The risks of such combined therapy may outweigh the benefits. The combination should be used only with caution and close monitoring. Decreased metoprolol and propranolol clearance may occur when either drug is administered concomitantly with verapamil. A variable effect has been seen with combined use of atenolol. Chronic verapamil treatment can increase serum digoxin levels by 50% to 75% during the first week of therapy, which can result in digitalis toxicity. In patients with hepatic cirrhosis, verapamil may reduce total body clearance and extrarenal clearance of digoxin. The digoxin dose should be reduced when verapamil is given, and the patient carefully monitored. Verapamil will usually have an additive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after verapamil administration. Concomitant use of flecainide and verapamil may have additive effects on myocardial contractility, AV conduction, and repolarization. Combined verapamil and quinidine therapy in patients with hypertrophic cardiomyopathy should be avoided, since significant hypotension may result. Concomitant use of lithium and verapamil may result in a lowering of serum lithium levels or increased sensitivity to lithium. Patients receiving both drugs must be monitored carefully. Verapamil may increase carbamazepine concentrations during combined use. Rifampin may reduce verapamil bioavailability. Phenobarbital may increase verapamil clearance. Verapamil may increase serum levels of cyclosporin. Verapamil may inhibit the clearance and increase the plasma levels of theophylline. Concomitant use of inhalation anesthetics and calcium antagonists needs careful titration to avoid excessive cardiovascular depression. Verapamil may potentiate the activity of neuromuscular blocking agents (curare-like and depolarizing); dosage reduction may be required. There was no evidence of a carcinogenic potential of verapamil administered to rats for 2 years. A study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. Pregnancy Category C. There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. Verapamil is excreted in breast milk; therefore, nursing should be discontinued during verapamil use.

**Adverse Reactions:** Constipation (7.3%), dizziness (3.3%), nausea (2.7%), hypotension (2.5%), headache (2.2%), edema (1.9%), CHF, pulmonary edema (1.8%), fatigue (1.7%), dyspnea (1.4%), bradycardia: HR < 50/min (1.4%), AV block: total 1°, 2°, 3° (1.2%), 2° and 3° (0.8%), rash (1.2%), flushing (0.6%), elevated liver enzymes, reversible non-obstructive paralytic ileus. The following reactions, reported in 1.0% or less of patients, occurred under conditions where a causal relationship is uncertain: angina pectoris, atrioventricular dissociation, chest pain, claudication, myocardial infarction, palpitations, purpura (vasculitis), syncope, diarrhea, dry mouth, gastrointestinal distress, gingival hyperplasia, ecchymosis or bruising, cerebrovascular accident, confusion, equilibrium disorders, insomnia, muscle cramps, paresthesia, psychotic symptoms, shakiness, somnolence, arthralgia and rash, exanthema, hair loss, hyperkeratosis, macules, sweating, urticaria, Stevens-Johnson syndrome, erythema multiforme, blurred vision, gynecomastia, galactorrhea/hyperprolactinemia, increased urination, spotty menstruation, impotence.

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*In this issue:* Don Young: On CHIPRA

*by Congressman Don Young*

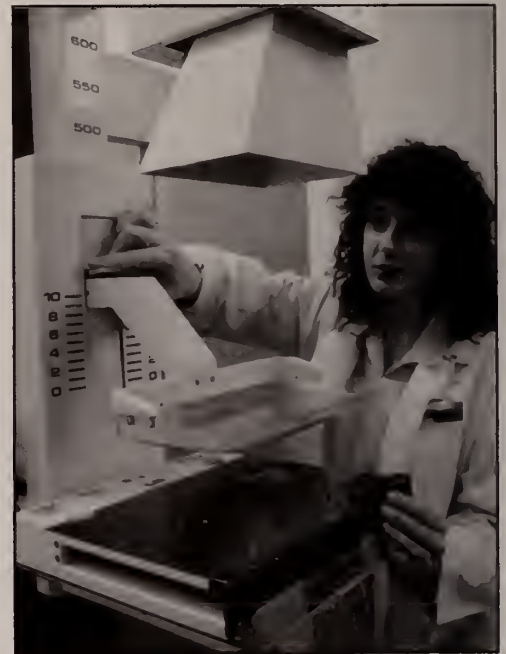
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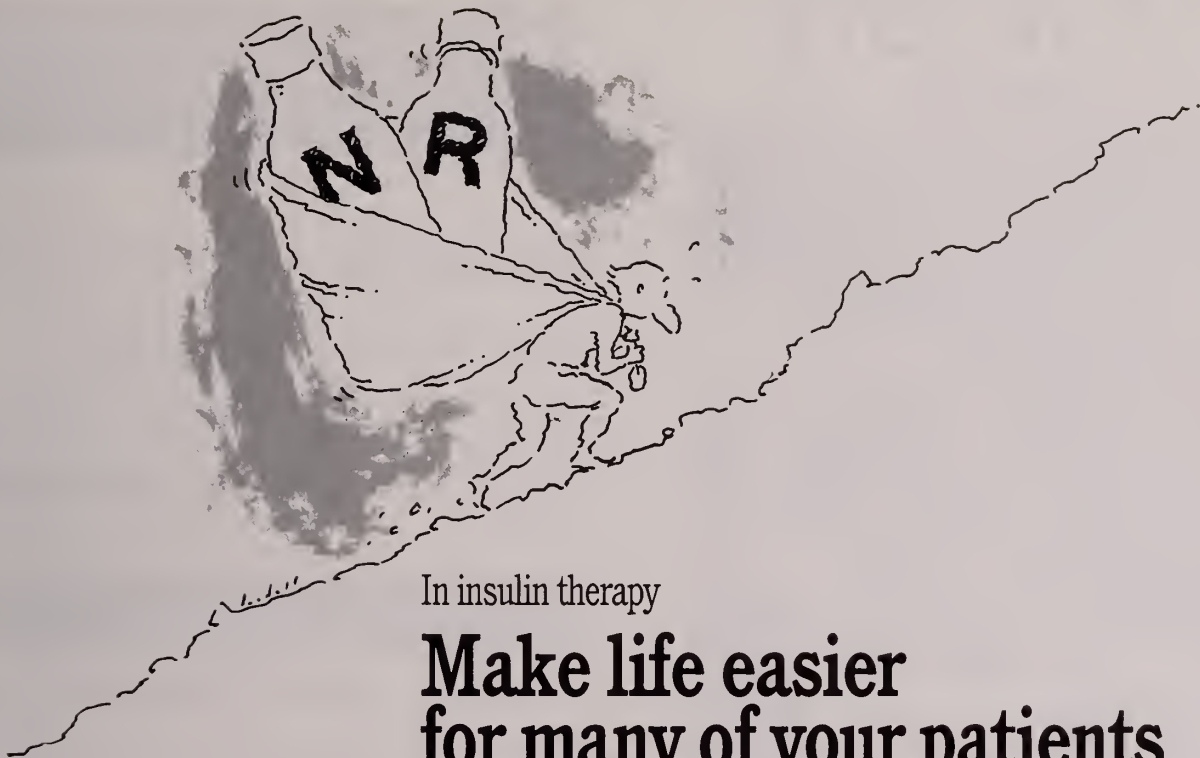


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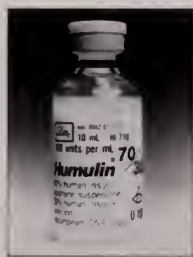




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## YOHIMBINE HCl

**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

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Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon<sup>®</sup> is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

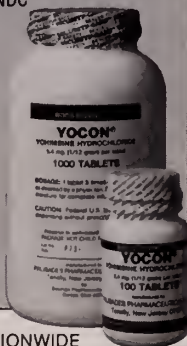
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yocon<sup>®</sup> 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

**References:**

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
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About the cover: Japanese anti-aircraft gun overlooks bay on Aleutian Chain. Photo courtesy of Lael Morgan/Alaska Magazine File Photo.



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# Body Composition Testing of Athletes In The Field Using Bioelectric Impedance Analysis

by Roy Chapman<sup>(1)</sup>, Greg Tibbetts<sup>(1)</sup>, Sam Case, PhD,<sup>(2)</sup>  
Debbie Evans<sup>(1)</sup>, and William J. Mills, Jr., M.D.<sup>(1)</sup>

## ABSTRACT

Bioelectric impedance analysis was performed as part of the field testing of seventeen athletes competing in the 1990 Iditarod Sled Dog Race. The purpose was to measure initial body composition and the changes that occurred during this extended performance period under Arctic conditions. Four women and thirteen men aged 26-53 years were tested to measure changes in their lean body weight, total body water, total body fat and percent body water. Study results record average body fat losses of 2.14 kg in the male and 1.02 kg in the female racers. Total body water and lean body mass remained stable, while an increase in body water percentage (men: 4.31%, women: 2.78%) was recorded. Though questions remain, bioelectric impedance analysis demonstrates potential for use in future field research projects.

## INTRODUCTION

The measurement of body composition can provide much valuable information to the health care provider or human performance researcher. Direct measurement techniques such as hydrodensitometry<sup>(1)</sup> and deuterium isotope dilution<sup>(2)</sup> are accurate but "facility dependant." New indirect measurement methods such as absorptiometry, infrared intereactance, computed tomography, neutron activation analysis, ultrasound and magnetic resonance show varying degrees of success,<sup>(3-9)</sup> but require extensive facilities and expensive equipment. Field testing options are limited to anthropometry, tough in the Arctic, or some type of portable indirect measurement device.

Bioelectric impedance analysis (BIA) is one indirect method of body composition testing that could prove to be very useful in the field.<sup>(10)</sup> Its usefulness is well

documented and BIA had been used successfully in the clinical environment for several years.<sup>(11-17)</sup> Zarowitz and Pilla<sup>(18)</sup> have produced an excellent overview of the inclusive theories and testing procedures involved in BIA. In short, bioelectric impedance analysis is a quick and non invasive procedure that utilizes moderately expensive and completely portable equipment to make body water and body composition measurements through use of a self-contained measurement and analysis system.<sup>(19)</sup>

BIA testing has been performed in the field, albeit on a limited basis. The University of Alaska Center for High Latitude Research Mt. McKinley Project has used it since 1983. Testing has also been done on Iditarod mushers since the 1988 race.<sup>(20,21)</sup> There is a lack of BIA field study results in the current reference literature, so a second objective of this study was to determine whether this testing could be performed accurately and without damage to the equipment. The Iditarod Sled Dog Race is a 650 kilometer adventure through harsh terrain under very adverse conditions, which presents unique problems to the researchers in the field. Determining that body composition data can be gathered successfully in this environment would make future testing possible and worthwhile.

## METHODS

The subject group consisted of seventeen adult volunteers (4 female, 13 male), from among the race participants. Each was briefed on the specifics of the study and given an informed consent form at the initial testing session. The project testing protocols were approved by the University of Alaska Institutional Review Board. Repeated training and practice sessions were conducted to insure personnel and equipment were operating properly.

The initial testing session was conducted 48 hours prior to the start of the event. Subjects voided, removed their shoes and then had height and weight measured. A

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complete BIA test session was then performed with the subjects supine and fully clothed. The right sock was removed to allow for BIA electrode attachment. Reweighing was performed at the post race test session, using the same scale. The post race sessions were conducted from 13-18 days after the initial session, as each subject completed the event in Nome.

Testing procedures and conditions were standardized to every extent possible. For maximum accuracy, subjects were supine and relaxed with no trunk to arm contact occurring during the resistance and reactance measurements. Each racer was tested one hour after completing the race for measurement consistency. Skin temperature of the subject was measured using the Bio-Therm 100 Infra Red Thermometer (Lafayette Instruments St. Louis, Missouri). An attempt was made to quantify subject fluid intake for the 24 hours prior to testing but we were unable to gather sufficient specific information to merit inclusion in this study. Bioelectric impedance measurements were made using an RJL Model 103B four-terminal impedance plethysmograph (RJL Systems, Detroit, Michigan). The tetrapolar method is preferred to minimize contact impedance. No electrode gel was used during attachment and care was taken to insure exact placement. Self adhesive electrodes (RJL # 103-004, Detroit, Michigan) were attached dorsally to the right hand and foot. They were positioned at the base of the second metacarpal and first metatarsal respectively, with the matched electrodes placed medially at the ulnar styloid process of the right wrist and anteriorly between the medial and lateral malleoli of the right ankle.

BIA assessment of body composition is based on the nature of electrical current conduction in an organism. Application of a constant, low level AC signal produces a frequency dependent impedance to the flow of current. Intracellular and extracellular fluids provide a medium for conductance while the cellular membranes are involved in capacitance.<sup>(10,13,15)</sup> Since water occupies a fixed fraction (73.2%) of fat-free mass<sup>(26)</sup> and none of the stored triglycerides, total body water can be used as an index of body composition<sup>(19,27)</sup> The 800 microampere 50kHz AC excitation current projects a deep homogeneous electrical field into the body<sup>(12,18)</sup> and the impedance to current flow provided by the body is measured by the BIA test set. When stable resistance and reactance readings are present on the test set, the lowest value displayed three consecutive samplings is recorded for use in the body composition calculations. The tester uses an integral Epson HX-20 computer with preloaded factory software to then calculate lean body weight, fat weight, total body water and percent body water.<sup>(19)</sup>

## RESULTS

Subject characteristics are presented in Table One. On average, male subjects were taller and weighed more than female subjects. Male average resistance values were lower, indicating greater fat-free mass.<sup>(15)</sup> Female participants were younger and had lower initial body fat percentages than males (male: 13.4%, female: 12.95%). Male subjects experienced a greater loss of body fat during the race than female subjects (male:-19.1%, female:-10.8%) and had lower average body fat percentages following the race (male: 10.87%, female: 11.55%).

As noted by many separate authors,<sup>(10,12,15,18)</sup> the resistance (R) and reactance (Xc) measurements taken with the BIA test set are consistent and reproducible. The computer uses the following gender specific equations in its body composition calculations.

<p>Male TBW (liters) = .4385 H/R + .2117 Wt(kg) + .2944          Female TBW (l) = .3859 H/R + .1458 Wt(kg) + 4.7951          Where Body Density = 1.1411 - .0736 (Wt*R/Ht)          Male % Body Fat = (4.95/Body Density - 4.50)* 100(Siri Equation)          Female LBM = .3981 H /R + .3066 Wt +.0953 (Ht-100 + .7414)          Female %LBM = LBM/Wt * 100          Female %Fat = 100%- %LBM</p>
--

## DISCUSSION

This study found that male and female subjects each lost an average of 2.8 percent of their body weight during participation in this event (see Table 1). Lean body mass showed little change (men: +0.1%, women: -1.2%) while body fat declined significant (p<.05). Female body water remained unchanged while male body water increased 3.5 percent (see Table 2).

Body composition testing provides information important in the understanding of human performance. The ideal measurement method for body composition testing should be inexpensive to purchase, easy to operate and maintain, noninvasive, accurate and reproducible. Bioelectric impedance analysis possesses these characteristics in the clinical environment. Its usefulness under field conditions seems promising.

There are points to consider when performing BIA testing on athletes in the field. Available reference literature contains only BIA clinical study results. The additional variables present during field testing were each



Table I. **Subject Characteristics**

	<u>Male (N=13)</u>	<u>Female (N=4)</u>
Age, years	37.9 +/-9.20*	34.0 +/-5.97*
Height, cm	177.32 +/-7.53	161.29 +/-3.74
Weight, kg		
Pre Race	77.84 +/-11.12	56.93 +/-8.83
Post Race	75.68 +/-9.50	55.34 +/-9.14
Resistance, ohms		
Pre Race <sup>#</sup>	420.77 +/-46.14	475.75 +/-72.04
Post Race <sup>#</sup>	403.15 +/-36.43	471.25 +/-74.62
Reactance, ohms		
Pre Race <sup>#</sup>	56.23 +/-14.06	55.25 +/-5.79
Post Race <sup>#</sup>	53.62 +/-1.53	57.75 +/-5.85

\* Values are mean +/- standard deviation

# Stable value, three measures

Table II. **Test Results**

	<u>Male (N=13)</u>	<u>Female (N=4)</u>
Lean weight, kg		
Pre Race	67.26 +/-16.40	49.53 +/-17.26
Post Race	67.35 +/-17.12	48.7 +/-17.75
% Change	+0.1	-1.2
Body Water, I		
Pre Race	48.96 +/-5.41	34.75 +/-4.80
Post Race	50.75 +/-5.67	34.75 +/-4.98
% Change	+3.5	No change
Body fat, %		
Pre Race	13.45 +/-3.07	12.95 +/-2.46
Post Race	10.87 +/-3.14	11.55 +/-2.13
% Change	-19.1	-10.8
Body water, %		
Pre Race	64.35 +/-4.08	61.25 +/-5.15
Post Race	67.24 +/-3.80	63.00 +/-2.65
% Change	+4.3	+2.8

\*Values are mean +/- SD

considered and measured as possible. The tendency of bioelectric impedance analysis to overestimate lean body mass in very obese persons is well documented,<sup>(12,14)</sup> but was not encountered as subject body fat percentage ranged from 7.7 to 19.0 in this study. Low ambient air temperature affects skin resistance values<sup>(22)</sup> but room temperature ranged from 78-82 degrees Fahrenheit during pre and post race test sessions.

The time elapsed since cessation of exercise can affect BIA resistance readings.<sup>(14)</sup> Study subjects were in a rest period during the pre race test session and had not exercised for at least six hours. During the post race testing each subject was tested one hour after completing the race. Subject skin temperatures clearly affects BIA resistance readings.<sup>(22)</sup> Subjects had skin temperature measured during both test sessions and there was no significant difference between pre and post race mean values (pre: 31.4 C, post: 31.0 C).

Fluid intake patterns can also affect BIA measurement results. It was impossible to accurately measure the fluid intake of these subjects due to the confusion and fatigue that affects these racers late in the race. Premeasured fluid containers should be used to accurately record fluid consumption in future studies.

One part of the problem in accurately assessing measured values is that no perfect reference technique exists for body composition measurement. All currently used methods have an associated error. The prediction of body fat through hydrostatic weighing, the traditional standard, yields an error of about 2.5 percent.<sup>(10,18)</sup> Anthropometric testing gives an error of 3-9 percent.<sup>(23,24)</sup> Bioelectric impedance analysis has an error of approximately 2.7 percent when compared to densitometrically obtained values.<sup>(10)</sup>

Cohn<sup>(25)</sup> raises some questions about the accuracy of BIA testing with abnormally hydrated subjects or those undergoing weight loss which must also be considered. Kushner and Schoeller,<sup>(27)</sup> however, have demonstrated that impedance testing can be used in subjects with body water abnormalities.

Lukaski<sup>(28)</sup> states that impedance testing is useful in assessing the total body

water (TBW) of individuals with altered metabolic functions. Pathologically high or low hydration levels will cause the miscalculation of lean body mass<sup>(29)</sup> due to the nature of the TBW/LBM relationship but were not encountered here.

The potential benefits of bioelectric impedance testing make overcoming these problems worthwhile. Body composition measurements in the field can provide tremendous information about the physical status of study subjects. The measurement of physical variables during exercise under Arctic conditions will continue to increase in importance as more and more people function there. Bioelectric impedance analysis can play a part in understanding these variables.

## CONCLUSIONS

This study measured the body composition and body water dynamics of humans performing extraordinary levels of work in a hostile environment. The results would be impossible to duplicate in a laboratory environment, if only for safety reasons. The hypovolemia encountered by Dr. Mills<sup>(20)</sup> and his team on Mt. McKinley were not seen here. The dehydration seen among participants in past Iditarods<sup>(21)</sup> was also not encountered due to the improved hydration patterns of the mushers.

Bioelectric impedance analysis testing is able to be performed in the field. The test equipment functioned properly and standardized test sessions were conducted. Extreme care must be taken to account for the additional variables present in field testing but usable and informative results were gathered.

The significant body fat losses and the gains in body water percentage are attributable to the vigorous exercise performed during the event. Study subjects clearly were not able to replace all fat burned in spite of their large caloric intake on the trail. The retention of lean mass (muscle) combines with body fat loss to cause the increase in body water percentage. These body composition and body water dynamics will be an important focus in future Arctic sports medicine research.

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(continued on page 95)



# Analysis of the Rural Medivac System in the Copper River Area

R.O. Van Camp, M.D.<sup>(1)</sup>

## ABSTRACT

A pattern of increasing use of aeromedical transport has been observed in the Copper River area of Central Alaska. A retrospective chart review was made to determine the reasons for these medivacs, and the outcome of the patients who were transferred by air ambulance from Cross Road Medical Center in Glennallen, Alaska. In this series there were no unexpected adverse outcomes. Additional or more accurate diagnoses were made on nearly one fourth of the patients. Ninety-two percent of those medivaced were hospitalized with 21 percent needing emergency surgery and 16 percent needing an ICU bed. All categories of patients showed benefit from transport to a higher level facility. There were no complications resulting from the transport.

## INTRODUCTION

Cross Road Medical Center is located in Glennallen, a small town in the Copper River area of South Central Alaska. The clinic is near the intersections of the Glenn and Richardson Highway and is owned by a local Christian board. It has limited x-ray, lab, and holding facilities, with 24 hours nursing and pharmacy available. It serves an area extending in a 60 to 100 mile radius from Glennallen and includes many highway and fly in communities.

The difference between the level of medical care available in isolated rural communities and that available in urban communities is steadily growing. Current trauma guidelines (1) encourage movement to higher levels of care for patients with unstable acute injuries and for patients who were involved in an incident likely to produce unstable injuries. Glennallen, like many small communities, has no hospital. Patients with a medical illness that need an operation or hospitalization must be transported nearly 200 miles. This transport must allow access to a higher level of care in a coordinated manner, while providing continuity of that medical care.

Cross Road Medical Center uses the aeromedivac system to accomplish these goals. The system has grown in quality and sophistication to keep pace with demands placed on it.

## METHODS

A chart review was undertaken to evaluate the effectiveness and appropriateness of the aeromedical transfers done from Glennallen during the calendar year 1990.

The medivacs were accomplished using state certified air ambulance services. The work was shared between an air ambulance service based in Glennallen and the two air ambulance services based in Anchorage. There were substantial differences in the equipment and the personnel used for each transport. Both pressurized and non-pressurized aircraft were used. Attendants were nurses, nurse practitioners or physicians. All medical attendants had completed the Alaska Medivac Escort course. All of the Medivac Services were state certified.

## RESULTS

The data obtained from this review is summarized in Tables I through VI.

**Table I.**  
Home of the Patient being Transferred

Total patients	141	
Local	89	(63%)
Other/In-state	40	(28%)
Out-of-state	12	(9%)

Table I demonstrates that over one-third of those transferred were not local residents, but were visiting or traveling through the area.

<sup>(1)</sup>Cross Road Medical Center, Box 5, Glennallen, Alaska 99588.

Total Incidents	141	
Medical	78	(55%)
Trauma I	7	(5%)
Trauma II	45	(32%)
Trauma III	11	(8%)

Table II shows that slightly more medical patients than trauma patients were moved.

The criteria of trauma were defined as follows:

- Trauma I - unstable with multiple injuries.
- Trauma II - stable but with multiple injuries.
- Trauma III- stable with isolated injuries such as eye or extremity injuries.

Total with alcohol	43	(30%)
Medical	19	(24%)
Trauma I	6	(86%)
Trauma II	16	(35%)
Trauma III	2	(18%)

Table III shows that alcohol use was a major contributor to the illness or injury of many of these needing transport. Nearly all of the most severely injured patients were intoxicated.

Total	63	
Car MVA	24	(31%)
		20 rollover 3 hit moose 1 2-car
ATV	4	(6%)
Airplane	6	(10%)
Motorcycle	3	(5%)
Penetrating Assault	6	(10%)
		3 GSW, 3 knife
Fall	8	(13%)
Burn	2	(3%)
Misc.	6	

Table IV itemizes the most frequent types of trauma resulting in medivac. Motor vehicle roll-over accidents were the single most common type of incident. These accidents usually occur at speeds greater than 55 mph.

Our service areas is very remote and has poor telephone access. The time from an accident occurring to receiving physician level care averages one hour and 40 minutes. This time is reduced when an incident is close to Glennallen and is reported promptly and accurately.

For patients needing transfer, the average time from arrival at the clinic in Glennallen to the time of departing the clinic is three hours. This includes roughly one hour for initial evaluation, stabilization and consent for transfer, then two hours are often required before the appropriate team and aircraft can arrive to accomplish the transfer. Numerous special circumstances influence the time spent in the clinic. These include weather, aircraft availability, and the severity of the patient's illness. There are so many variables that some delay almost always occurs. The shortest clinic time was 30 minutes, and the longest was 24 hours.

The average time in transport from Glennallen to the definitive care center is one hour and 53 minutes. This typically includes about 20 minutes of ground ambulance transport in both Glennallen and Anchorage, and one hour for flight time. This can be reduced to a minimum of one hour and 20 minutes when using a rotor wing craft that can land at each facility involved.

The outcome of this series of transfers was determined by chart review. Ninety-two percent required hospitalization, with 21 percent needing operations, and 16 percent needing ICU beds. Eight percent of the patients were treated, observed in the emergency department and then followed as outpatients.

Hospitalized	130	(92%)
One or more operations	41	(21%)
Placed in ICU	22	(16%)
Treated and released from ER	8	(6%)
Released from ER with no additional treatment	3	(2%)

There were no patients who became unstable or died during flight. There were no outcome differences between the three air ambulance services involved in the transports. See Table V.

Additional diagnosis were made on 23 percent of the patients transferred. Table VI summarizes this data by patient group. Nearly half of the critically injured, unstable patients, and one-third of the multiple trauma



stable patients had problems not definitely diagnosed in Glennallen. Examples of these conditions were: subdural hematoma (2), mandible fracture (2), basilar skull fracture, rib fracture, humerus fracture, acetabular fracture, pneumothorax, liver hematoma, and rupture of the diaphragm.

Treatment at Cross Road Medical Center showed a trend toward physiologic stabilization. One patient had a decreasing trauma score due to an expanding subdural hematoma and deteriorating level of consciousness. All others showed no change, or improved trauma scores between arriving and departing Cross Road Medical Center. Of the 13 patients who arrived with a trauma score of 13 or less, the average trauma score improved from 10.8 on arrival to 13.7 on departure from Glennallen.

There were no patients who became unstable during transport and no injuries from transport.

**Table VI.**

Additional Diagnoses Made at the Referral Center

Total	33	(23%)
Medical	12	(15% of Medical)
Trauma I	3	(43% of Trauma I)
Trauma II	15	(33% of Trauma II)
Trauma III	3	( 9% of Trauma III)

## CONCLUSION

Aeromedical transport is an increasingly important link to medical care for rural patients. The service is safe and enhances medical care. Each patient category benefitted from transport to a higher level facility.

## ACKNOWLEDGEMENTS

Special thanks to the pilots, nurses and physicians of Humana, Lifeguard and Cross Road Critical Care Air Ambulance Systems. They provide the vital link to definitive medical care for patients in the Copper River area.

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# Neonatal Circumcision in Anchorage 1985-1990

Jon Lyon, M.D.<sup>(1)</sup>

The most commonly performed surgical procedure in the U.S. is neonatal circumcision. This simple procedure is performed on at least 50 percent of all American born males. From the early 1940s until the mid 1970s, the relatively unchallenged American opinion was that circumcision was beneficial by preventing genital disease such as local infections, cancer of the penis and cervical cancers in sexual partners.

This view was challenged in the 1970s as a careful review of objective data did not seem to support these contentions.<sup>(1)</sup> In 1975 the AAP Task Force on Circumcision concluded that there is no compelling medical reason for doctors to encourage routine circumcision.<sup>(2)</sup> During the 1970s and 1980s the national rates for circumcision declined from a high of 80-90 percent to a low of 60-70 percent.<sup>(3-5)</sup>

In the 1980s a new view of the value of circumcision has emerged, beginning with data demonstrating increased risk of urinary tract infections in uncircumcised males.<sup>(4)</sup> An active debate has ensued.<sup>(3,7)</sup> New data has been presented to support the view that routine circumcision will prevent penile cancer and sexually transmitted diseases including Human Immunodeficiency disease (AIDS).<sup>(3,8,9)</sup>

In 1989 the AAP Task Force on Circumcision published a new statement recognizing this debate and advised pediatricians to explain to parents that neonatal circumcision has slight risk and potential medical benefits.<sup>(10)</sup> Furthermore, the chairman of that committee has published independently that he believes that the benefits of routine circumcision of newborns as a preventative health measure far exceeds the risk of the procedure.<sup>(3,11)</sup> It is not surprising then if the national rate for neonatal circumcision should again be rising.

In 1985, I was curious to see how commonly my patients were circumcised, and randomly surveyed a small number of male infants less than two years of age. I found that 61 percent (17/28 boys) were circumcised and 39 percent (11/28) were not. In 1990 I repeated this small random survey and this time found that 80 percent (24/30) were circumcised and 20 percent (6/30) were not. This demonstrates a circumcision rate increase in my practice of 19 percent in five years. (significance  $p < 0.05$ )

To compare my practice to the community, I asked Providence Hospital, Anchorage to provide me with data

for in-patient neonatal circumcision. This data is presented in Table I. The hospital data shows a more modest increase in the in-hospital neonatal circumcision rate of 7 percent. (Significance  $p < 0.05$ ).

**Table I.**  
**In Hospital Circumcisions Performed 1985-1990,**  
**Providence Hospital, Anchorage, Alaska**

	<u># males born in Hosp.</u>	<u># circumcisions performed</u>	
1985	1209	653	(54%)
1986	1326	659	(50%)
1987	1255	681	(54%)
1988	1161	654	(56%)
1989	1201	651	(54%)
1990	1177	724	(61%)

My observations of hospital practices suggested to me that a significant number of circumcisions were being performed after discharge from the hospital. With shorter routine hospital stays I felt that this practice may be increasing. For the months of February and March 1991, parents were interviewed regarding their intent to circumcise their sons. It was discovered that 16-18% of the boys were to be circumcised after discharge. This data is presented in Table II. If this rate is added to the in-hospital rate in 1990, the total circumcision rate would be approximately 78%. Unfortunately, the out-of-hospital rate is not known for 1985, so a comparison cannot be made.

## CONCLUSION

In conclusion, a review of the debate of the merits of performing routine neonatal circumcision, as well as a review of local data available, both suggest that the pendulum is again swinging against the foreskin, and that we are seeing an increase in the practice of routine circumcision.

## ACKNOWLEDGEMENTS

Thanks to Nancy Heynen, RN and Pat Bernard, RRA for assistance in collecting the hospital data, and to Professor P.J. Hill for statistical analysis.

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**Table II.**

**In Hospital and Planned Out-of-Hospital Circumcisions  
at Providence Hospital, Anchorage, Alaska, February - March 1991.**

	<u>Males born</u>	<u># circumcised in hosp.</u>	<u># to be circumcised</u>	<u>Total circumcised</u>
Feb 1991	81	53 (65%)	13 (16%)	64 (81%)
Mar 1991	104	65 (63%)	19 (18%)	84 (81%)

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# For the Record . . .

## Don Young: On CHIPRA

by Congressman Don Young

As health care costs continue to skyrocket and more and more Americans live with no or little insurance, the issue of health care reform has never been so imperative at the local, state, and national level. Health care reform at every level of government will continue to gain steam as dictated by the increasing strain of the budget deficit on all aspects of society. The goal of health care reform remains obvious - that is to ameliorate cost and access problems without negatively affecting the quality of care. But as I have said in the past about the ailing health care delivery system, the diagnosis is much easier than the cure.

I have supported health care reform legislation in the U.S. House of Representatives, but I wholeheartedly feel that Congress could do more harm than good by thrusting sweeping changes on the United States health care delivery system. I would prefer to see working models developed at the state and local level from which Congress could implement the best concepts in

guiding the future direction of health care policy. In Alaska, we are lucky to have individuals who have diligently constructed such a model, "The Comprehensive Health Insurance and Payment Reform Act of 1992" (CHIPRA).

The CHIPRA model is as detailed in specifics as it is wide in scope. Most provisions have yet to be fully digested by the medical community, insurers, lawyers, state legislators, small businesses, and other concerned Alaskans, so in the months ahead we can look forward to informative discussions and constructive debates. I would like to take this opportunity, however, to commend the leadership of the Alaska State Medical Association, the Alaska Hospital & Nursing Home Association, and the entire Health Access & Cost Containment Council for their hard work and devotion in addressing the most difficult problems facing our health care delivery system today. I have seen proposals at the federal level from groups with near limitless resources that cannot compare to CHIPRA in terms of realistically addressing cost and access issues.

As the debate over health care reform continues, it is paramount that the various parties involved in our health care delivery system work together to form a compro-

mise. Necessity will dictate change, but whether that change is derived from those most knowledgeable on the subject matter will depend upon their ability to compromise. If an equitable agreement among providers, insurers, employers and attorneys is not forthcoming then change will inevitably be thrust upon those interests from legislators which, as I have stated, could do more harm than good. Compromise invariably entails some toes getting stepped on, but all parties must be willing to take a hit if we are to rise above the current morass of cost and access troubles.

In terms of cost containment, CHIPRA contains several provisions which I fully support and which I believe to be workable initiatives for the very near future. First, medical malpractice reform will be a necessary step to control the direct costs due to exorbitant medical malpractice insurance and the even larger, indirect costs attributable to defensive medicine. The American Medical Association

estimates that medical malpractice costs for all providers reached seven billion dollars in 1989, with another fifteen billion dollars spent on defensive medicine. CHIPRA addresses the effects of our over litigious society by placing realistic caps on contingency fees. Contingency fees for attorneys involved in medical malpractice would be subject to the following limits:

- (1) forty percent of the first fifty thousand dollars recovered;
- (2) thirty-three and one third percent of the next fifty thousand dollars recovered;
- (3) twenty-five percent of the next five hundred thousand dollars recovered;
- (4) fifteen percent of any amount which exceeds six hundred thousand dollars.

Another important cost container found in CHIPRA is the emphasis placed on preventative medicine. Preventative care has often been overlooked during discussions on health care reform, but I believe it to be among the most integral aspects of any comprehensive cost cutting measure. For example, studies have shown that for every one dollar spent on immunization, nine dollars is saved

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The CHIPRA model is  
as detailed in specifics as it  
is wide in scope.

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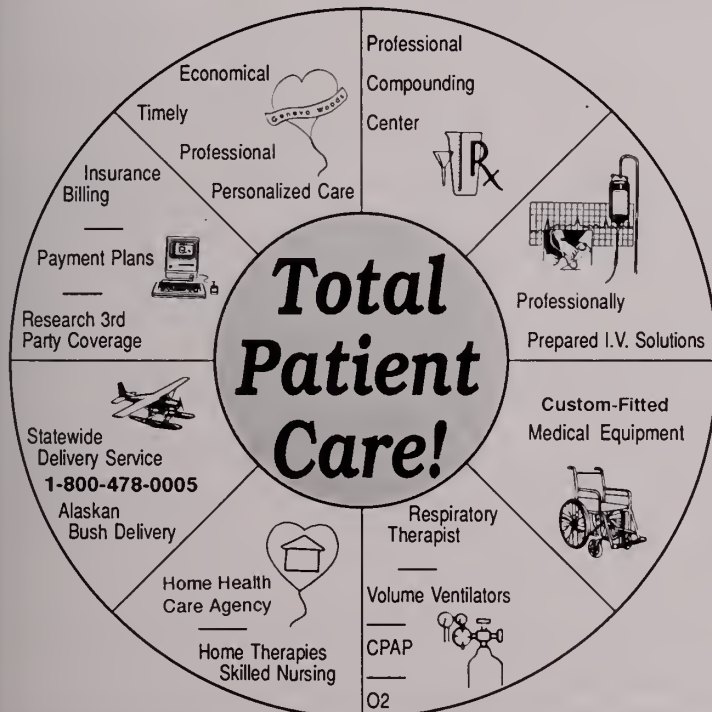
on expenses that would have been incurred down the road. Similar correlations exist with mammography screening, prenatal care, and well-baby/well-child care. I was very pleased to see the emphasis placed on prevention, not only because of the cost savings involved, but because of the overall improvement in quality of life that is necessarily associated with preventative care.

In terms of access, CHIPRA would create the Alaska Health Insurance Corporation which would be charged with establishing a state health insurance program, regulating increases in health insurance rates, and regulating increases in charges of health care providers. The goal to insure all Alaskans must include the small business as a centerpiece to any program. I have discussed the access issue with many small business persons and have come to realize small businesses truly want to provide insurance for their employees. But they also feel that the "pay or play" programs developed at the national level would place an excessive burden on their backs. As it was

described to me, the CHIPRA program would create a "fifty percent pay or play system." I am very interested to hear the response from the small business community on this program. If they do support it, then CHIPRA would have a great chance of becoming the type of working model that is so needed in Washington.

Whatever lies ahead for the CHIPRA proposal, it will certainly bring much needed debate to Alaska on the difficult cost and access issues which face health care reform. I hope involved parties can work together in developing a program that adequately suits them while not debilitating any one sector in the process. Individuals see the worsening trends in the health care delivery and finance system and realize that a brighter future entails compromise and spreading the "hits" equitably. Alaskans are known for persevering through difficult projects — so let's work together as Alaskans and hammer out a fair deal.

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# ON BEING A DOCTOR

## WHAT HAVE I DONE?

"There's a code on 2 North!" a nurse with a high-pitched voice shouts from across the room.

I remove my stethoscope from the barrel chest of a middle-aged smoker. He had arrived at the emergency room of the local VA Hospital a few minutes before, in the early hours of a rainy, Pacific Northwest morning. Rubbing the vestiges of sleep from my eyes, I follow the nurse who had located me. Earlier in my training I may have raced to the scene, my pulse pounding and my mind muddled. But now I'm a grizzled warrior, not unlike these previously gallant veterans of war who have entrusted their medical care to me on this day. I proceed up the stairs and down the hall, carried by my weary legs into the room presently in turmoil.

The limp body of an elderly gentleman lies supine on a hospital bed, his skin dangerously ashen. No pulse; no respirations. The show begins: chest compressions to transport the stagnant blood; warm, moist oxygen to fuel the stricken corpus; one spark after another to awaken the quivering heart.

Who was this poor man anyway? Was he a Purple Heart recipient? Did he lead a charge up the hill at Iwo Jima? Maybe he served in Patton's Third Army as a combat infantryman. Is he now a proud grandfather or even great grandfather, the patriarch of a large prosperous family? Or is he an embittered recluse, sharing life with a jug of whiskey and a deck of cards? A quick review of his chart reveals only that he had been admitted the day before with a rapid heart rate and had been stabilized and transferred to a general medical ward to await further diagnostic evaluation.

Potent medications follow; fragments of an organized rhythm; an occasional spontaneous pulse to prod us onward. But the minutes roll on, relentless as the rain.

Now the body shakes vigorously in convulsion as if any remaining life is making a harried escape from all this madness. The eyes, previously a mint green, but now a dirty grey, have retreated deeply into the balding skull and have dilated and turned upward as if indicating their disapproval.

Another round of sparks and juice, but to no avail. Twenty minutes have passed. Dejected visages from the gallery await the next order even though they sense the battle has been lost. "Any disagreement?" No. And efforts cease. The show has ended.

The time of death is . . . But wait . . . Yes! There's a pulse, bounding, seemingly in malicious contempt. On the monitor, a rhythm now compatible with life appears, but there are no spontaneous respirations. An endotracheal tube passes from my unsteady hand into the silent airway of the resuscitated body and we speed away to the intensive care unit.

What have I done? On the surface, it appears that I have saved a life. But at what price? Too early to tell. Previous experience leaves me with serious doubts and misgivings. I am reminded of a study showing that less than one out of ten patients over the age of 69 who had experienced a cardiopulmonary arrest while in the hospital survived to discharge (1). If the resuscitation had lasted more than fifteen minutes, less than one out of every one hundred survived; and of the survivors, most experienced serious functional and mental impairments, ranging from a partial paralysis to dementia or psychosis.

Should I have stopped my efforts sooner? Should they have begun in the first place? Unfortunately, but not surprisingly, the patient's wishes were not known; nor had they been requested. Would this poor man have consented to my assault on his person if he had been aware of the consequences? And does his soul, caught in a tangled web of technology, curse me now as I methodically write the very orders that may ensure its continued immurement?

The first sign of the reawakening is merely a withdrawal of a limb to a painful stimulus. It is enough, however, to revitalize my efforts and renew my hope. In confirmation of the rebirth, the eyes open slowly and the head nods hesitantly in recognition of its name.

Exhilaration, as I have never experienced before, and a sense of a new father's boastful pride well up within me as I look upon this miracle of medical science. "The exception that proves the rule," I tell my wife later that evening. I'm still wound tight as a spring when my head hits the pillow for the first time in nearly forty hours.

Two weeks later, I'm back for another moonlighting shift. The sound of stomping feet passes my call room door. "All men to 2 North. A patient is out of control!" Turmoil once again. Arms flailing, voices shouting, a defiant glare from those same mint green eyes.

I linger at the door, the situation now well in hand. A

(continued on page 112)



# The ACCUPRIL Single-Agent Commitment™

Parke-Davis is confident that for many of your hypertensive patients ACCUPRIL will achieve the decrease in blood pressure you expect.

If, in your medical judgment, your patient requires a diuretic in addition to ACCUPRIL at any time during ACCUPRIL therapy, Parke-Davis will refund your patient's cost of the diuretic.\*†



*New!*  
ONCE-A-DAY ‡  
**ACCUPRIL®** <sup>TM</sup>  
quinapril HCl tablets 10, 20, 40 mg

See DOSAGE AND ADMINISTRATION section of prescribing information.

† If, after an adequate trial of ACCUPRIL alone, based on your medical judgment as the prescribing physician, you determine that your patient requires the addition of a diuretic, Parke-Davis will refund to the patient his/her cost for the diuretic prescription less any amount reimbursed or paid for by an HMO, insurance company, or any other plan or program.

‡ For more details, ask your Parke-Davis Representative or call 1-800-955-3077.

§ In some patients, the antihypertensive effect may diminish toward the end of the once-daily dosing interval. In such patients, an increase in dosage or twice-daily administration may be warranted.

ACCUPRIL is available in 10, 20, and 40 mg tablets. Usual initial starting dosage is 10 mg once daily.

ACCUPRIL is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Please see brief summary of prescribing information on following page.

## Accupril® (Quinapril Hydrochloride Tablets)

Before prescribing, please see full prescribing information. A brief summary follows.

### INDICATIONS AND USAGE

ACCUPRIL is indicated for the treatment of hypertension. It may be used alone or in combination with thiazide diuretics.

In using ACCUPRIL, consideration should be given to the fact that another angiotensin-converting enzyme (ACE) inhibitor, captopril, has caused agranulocytosis, particularly in patients with renal impairment or collagen vascular disease. Available data are insufficient to show that ACCUPRIL does not have a similar risk (see WARNINGS).

### CONTRAINDICATIONS

ACCUPRIL is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

### WARNINGS

**Angioedema:** Angioedema of the face, extremities, lips, tongue, glottis, and larynx has been reported in patients treated with ACE inhibitors and has been seen in 0.1% of patients receiving ACCUPRIL. Angioedema associated with laryngeal edema can be fatal. If laryngeal stridor or angioedema of the face, tongue, or glottis occurs, treatment with ACCUPRIL should be discontinued immediately, the patient treated in accordance with accepted medical care, and carefully observed until the swelling disappears. In instances where swelling is confined to the face and lips, the condition generally resolves without treatment; antihistamines may be useful in relieving symptoms.

Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, emergency therapy including, but not limited to, subcutaneous epinephrine 1:1000 (0.3 to 0.5 mL) should be promptly administered (see ADVERSE REACTIONS).

**Hypotension:** Symptomatic hypotension was rarely seen in uncomplicated hypertensive patients treated with ACCUPRIL but, as with other ACE inhibitors, it is a possible consequence of therapy in salt/volume depleted patients, such as those previously treated with diuretics or dietary salt restriction or who are on dialysis (see PRECAUTIONS, DRUG INTERACTIONS, and ADVERSE REACTIONS). In controlled studies, syncope was observed in 0.4% of patients (N = 3203); this incidence was similar to that observed for captopril (1%) and enalapril (0.8%).

In patients with concomitant congestive heart failure, with or without associated renal insufficiency, ACE inhibitor therapy may cause excessive hypotension, which may be associated with oliguria or azotemia and, rarely, with acute renal failure and death. In such patients, ACCUPRIL therapy should be started at the recommended dose under close medical supervision. These patients should be followed closely for the first 2 weeks of treatment and whenever the dosage of antihypertensive medication is increased (see DOSAGE AND ADMINISTRATION).

If symptomatic hypotension occurs, the patient should be placed in the supine position and, if necessary, normal saline may be administered intravenously. A transient hypotensive response is not a contraindication to further doses; however, lower doses of ACCUPRIL or reduced concomitant diuretic therapy should be considered.

**Neutropenia/Agranulocytosis:** Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression rarely in patients with uncomplicated hypertension, but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease such as systemic lupus erythematosus or scleroderma. Agranulocytosis did occur during ACCUPRIL treatment in one patient with a history of neutropenia during previous captopril therapy. Available data from clinical trials of ACCUPRIL are insufficient to show that, in patients without prior reactions to other ACE inhibitors, ACCUPRIL does not cause agranulocytosis at similar rates. As with other ACE inhibitors, periodic monitoring of white blood cell counts in patients with collagen vascular disease and/or renal disease should be considered.

**Fetal/Neonatal morbidity and mortality:** ACE inhibitors, including ACCUPRIL, can cause fetal and neonatal morbidity and mortality when administered to pregnant women.

When ACE inhibitors have been used during the second and third trimesters of pregnancy, there have been reports of hypotension, renal failure, skull hypoplasia, and death. Oligohydramnios has also been reported, presumably resulting from decreased fetal renal function; oligohydramnios has been associated with fetal limb contractures, craniofacial deformities, hypoplastic lung development, and intrauterine growth retardation.

Prematurity and patent ductus arteriosus have been reported, although it is not clear whether these occurrences were due to the ACE-inhibitor exposure or to the mother's underlying disease. It is not known whether exposure limited to the first trimester can adversely affect fetal outcome.

A patient who becomes pregnant while taking ACE inhibitors, or who takes ACE inhibitors when already pregnant, should be apprised of the potential hazard to her fetus. If she continues to receive ACE inhibitors during the second or third trimester of pregnancy, frequent ultrasound examinations should be performed to look for oligohydramnios. When oligohydramnios is found, ACE inhibitors should generally be discontinued.

Infants with histories of in utero exposure to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion. Hemodialysis and peritoneal dialysis have little effect on the elimination of quinapril and quinaprilat.

No fetotoxic or teratogenic effects were observed in rats at quinapril doses as high as 300 mg/kg/day (180 and 30 times the maximum daily human dose when based on mg/kg and mg/m<sup>2</sup>, respectively), despite maternal toxicity at 150 mg/kg/day. Tested later in gestation and during lactation, reduced offspring body weight was seen at ≥25 mg/kg/day, and changes in renal histology (juxtaglomerular cell hypertrophy, tubular/pelvic dilation, glomerulosclerosis) were observed both in dams and offspring treated with 150 mg/kg/day. Quinapril was not teratogenic in the rabbit; however, as noted with other ACE inhibitors, maternal toxicity and embryotoxicity were seen in some rabbits at quinapril doses as low as 0.5 mg/kg/day (one time the recommended human dose) and 1.0 mg/kg/day, respectively.

### PRECAUTIONS

#### General

**Impaired renal function:** As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including ACCUPRIL, may be associated with oliguria and/or progressive azotemia and rarely acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine have been observed in some patients following ACE inhibitor therapy. These increases were almost always reversible upon discontinuation of the ACE inhibitor and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some hypertensive patients with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when ACCUPRIL has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of any diuretic and/or ACCUPRIL may be required.

**Evaluation of hypertensive patients should always include assessment of renal function** (see DOSAGE AND ADMINISTRATION).

**Hyperkalemia and potassium-sparing diuretics:** In clinical trials, hyperkalemia (serum potassium ≥5.8 mmol/L) occurred in approximately 2% of patients receiving ACCUPRIL. In most cases, elevated serum potassium levels were isolated values which resolved despite continued therapy. Less than 0.1% of patients discontinued therapy due to hyperkalemia. Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with ACCUPRIL (see PRECAUTIONS, Drug Interactions).

**Surgery/anesthesia:** In patients undergoing major surgery or during anesthesia with agents that produce hypotension, ACCUPRIL will block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

#### Information for Patients

**Angioedema:** Angioedema, including laryngeal edema, can occur with treatment with ACE inhibitors, especially following the first dose. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to stop taking the drug until they have consulted with their physician (see WARNINGS).

**Symptomatic hypotension:** Patients should be cautioned that lightheadedness can occur, especially during the first few days of ACCUPRIL therapy, and that it should be reported to a physician. If actual syncope occurs, patients should be told to not take the drug until they have consulted with their physician (see WARNINGS).

All patients should be cautioned that inadequate fluid intake or excessive perspiration, diarrhea, or vomiting can lead to an excessive fall in blood pressure because of reduction in fluid volume, with the same consequences of lightheadedness and possible syncope.

Patients planning to undergo any surgery and/or anesthesia should be told to inform their physician that they are taking an ACE inhibitor.

**Hyperkalemia:** Patients should be told not to use potassium supplements or salt substitutes containing potassium without consulting their physician (see PRECAUTIONS).

## Accupril® (Quinapril Hydrochloride Tablets)

**Neutropenia:** Patients should be told to report promptly any indication of infection (eg, sore throat, fever) which could be a sign of neutropenia.

**NOTE:** As with many other drugs, certain advice to patients being treated with ACCUPRIL is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

### Drug Interactions

**Concomitant diuretic therapy:** As with other ACE inhibitors, patients on diuretics, especially those on recently instituted diuretic therapy, may occasionally experience an excessive reduction of blood pressure after initiation of therapy with ACCUPRIL. The possibility of hypotensive effects with ACCUPRIL may be minimized by either discontinuing the diuretic or cautiously increasing salt intake prior to initiation of treatment with ACCUPRIL. It is not possible to discontinue the diuretic the starting dose of quinapril should be reduced (see DOSAGE AND ADMINISTRATION).

**Agents increasing serum potassium:** Quinapril can attenuate potassium loss caused by thiazide diuretics and increase serum potassium when used alone. If concomitant therapy of ACCUPRIL with potassium-sparing diuretics (eg, spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes is indicated, they should be used with caution along with appropriate monitoring of serum potassium (see PRECAUTIONS).

**Tetracycline and other drugs that interact with magnesium:** Simultaneous administration of tetracycline with ACCUPRIL reduced the absorption of tetracycline by approximately 28% to 37%, possibly due to the high magnesium content in ACCUPRIL tablets. This interaction should be considered if coprescribing ACCUPRIL and tetracycline or other drugs that interact with magnesium.

**Lithium:** Increased serum lithium levels and symptoms of lithium toxicity have been reported in patients receiving concomitant lithium and ACE inhibitor therapy. These drugs should be co-administered with caution, and frequent monitoring of serum lithium levels is recommended. If a diuretic is also used, it may increase the risk of lithium toxicity.

**Other agents:** Drug interaction studies of ACCUPRIL with other agents showed:

- Multiple dose therapy with propranolol or cimetidine has no effect on the pharmacokinetics of single doses of ACCUPRIL.
- The anticoagulant effect of a single dose of warfarin (measured by prothrombin time) was not significantly changed by quinapril coadministration twice-daily.
- ACCUPRIL treatment did not affect the pharmacokinetics of digoxin.
- No pharmacokinetic interaction was observed when single doses of ACCUPRIL and hydrochlorothiazide were administered concomitantly.

### Carcinogenesis, Mutagenesis, Impairment of Fertility

Duinaquil hydrochloride was not carcinogenic in mice or rats when given in doses up to 75 or 100 mg/kg/day (50 to 60 times the maximum human daily dose, respectively, on a mg/kg basis and 3.8 to 10 times the maximum human daily dose when based on a mg/m<sup>2</sup> basis) for 104 weeks. Female rats given the highest dose level had an increased incidence of mesenteric lymph node hemangiomas and skin/subcutaneous lipomas. Neither quinapril nor quinaprilat were mutagenic in the Ames test assay with or without metabolic activation. Duinaquil was also negative in the following genetic toxicology studies: *in vitro* mammalian cell point mutation, sister chromatid exchange in cultured mammalian cells, micronucleus test with mice *in vivo* chromosome aberration with V79 cultured lung cells, and *in vivo* cytogenetic study with rat bone marrow. There were no adverse effects on fertility or reproduction in rats at doses up to 100 mg/kg/day (60 and 10 times the maximum human dose when based on mg/kg and mg/m<sup>2</sup>, respectively).

### Pregnancy

**Pregnancy Category D:** See WARNINGS, Fetal/Neonatal morbidity and mortality.

### Nursing Mothers

It is not known if quinapril or its metabolites are secreted in human milk. Quinapril is secreted to a limited extent, however, in milk of lactating rats (5% or less of the plasma drug concentration was found in rat milk). Because many drugs are secreted in human milk, caution should be exercised when ACCUPRIL is given to a nursing mother.

### Geriatric Use

Elderly patients exhibited increased area under the plasma concentration time curve (AUC) and peak levels for quinapril compared to values observed in younger patients; this appeared related to decreased renal function rather than to age itself. In controlled and uncontrolled studies of ACCUPRIL where 918 (21%) patients were 65 years and older, no overall differences in effectiveness or safety were observed between older and younger patients. However, greater sensitivity of some older individual patients cannot be ruled out.

### Pediatric Use

The safety and effectiveness of ACCUPRIL in children have not been established.

### ADVERSE REACTIONS

ACCUPRIL has been evaluated for safety in 4960 subjects and patients. Of these, 3203 patients, including 655 elderly patients, participated in controlled clinical trials. ACCUPRIL has been evaluated for long-term safety in over 1400 patients treated for 1 year or more.

Adverse experiences were usually mild and transient.

Discontinuation of therapy because of adverse events was required in 4.7% of patients treated with ACCUPRIL in placebo-controlled hypertension trials.

Adverse experiences probably or possibly related to therapy or of unknown relationship to therapy occurring in 1% or more of the 1563 patients in placebo-controlled hypertension trials who were treated with ACCUPRIL are shown below.

#### Adverse Events in Placebo-Controlled Trials

	ACCUPRIL (N = 1563) Incidence (Discontinuation)	Placebo (N = 579) Incidence (Discontinuation)
Headache	5.6 (0.7)	10.9 (0.7)
Dizziness	3.9 (0.8)	2.6 (0.2)
Fatigue	2.6 (0.3)	1.0
Coughing	2.0 (0.5)	0.0
Nausea/Vomiting	1.4 (0.3)	1.9 (0.2)
Abdominal Pain	1.0 (0.2)	0.7

Clinical adverse experiences probably or possibly related, or of uncertain relationship to therapy, occurring in 0.5% to 1.0% (except as noted) of the patients treated with ACCUPRIL (with or without concomitant diuretic) in controlled or uncontrolled trials (N = 4397) and less frequent, clinically significant events seen in clinical trials or post-marketing experience (the latter events are in italics) include (listed by body system):

**General:** back pain, malaise

**Cardiovascular:** palpitation, vasodilation, tachycardia, heart failure, hyperkalemia, myocardial infarction, cerebrovascular accident, hypertensive crisis, angina pectoris, orthostatic hypotension, cardiac rhythm disturbances

**Gastrointestinal:** dry mouth or throat, constipation, gastroenteritis, hemorrhage, pancreatitis, abnormal liver function test

**Nervous/Psychiatric:** somnolence, vertigo, syncope, nervousness, depression

**Integumentary:** increased sweating, pruritus, exfoliative dermatitis, photosensitivity reaction

**Urogenital:** acute renal failure

**Other:** amblyopia, pharyngitis, sinusitis, bronchitis, agranulocytosis, thrombocytopenia

**Angioedema:** angioedema has been reported in patients receiving ACCUPRIL (0.1%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with ACCUPRIL should be discontinued and appropriate therapy instituted immediately (see WARNINGS.)

### Clinical Laboratory Test Findings

**Hematology:** (See WARNINGS)

**Hyperkalemia:** (See PRECAUTIONS)

**Creatinine and blood urea nitrogen:** Increases (>1.25 times the upper limit of normal) in serum creatinine and blood urea nitrogen were observed in 2% and 2%, respectively, of patients treated with ACCUPRIL alone. Increases are more likely to occur in patients receiving concomitant diuretic therapy than in those on ACCUPRIL alone. These increases often remit on continued therapy.

\* In some patients, the antihypertensive effect may diminish toward the end of the once-daily dosing interval. In such patients, an increase in dosage or twice-daily administration may be warranted.



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# STATE OF ALASKA

## DEPARTMENT OF HEALTH AND SOCIAL SERVICES

OFFICE OF THE COMMISSIONER

WALTER J. HICKEL, GOVERNOR

THEODORE A. MALA, COMMISSIONER

P.O. BOX 110601  
JUNEAU, ALASKA 99811-0601  
PHONE: (907) 465-3030

Dear Fellow Alaskans:

In the last edition of *Alaska Medicine*, health experts whose concerns range from dental health, emergency medicine, and epidemiology, to ophthalmology, gynecology, and mental health, brought home to Alaska their experiences and knowledge gained during the 1991 Alaska-Magadan medical exchange expedition.

What was evident to these Alaskan participants in this important exchange program is the unquestionable health link we in the world's northern regions share. Information about that link of common health-related problems now needs to be shared with the rest of the health community and with political and other policy makers across Alaska.

Those of us in the health professions have a marvelous opportunity to do just that during this election year. It matters not whether our area of work is in Fetal Alcohol Syndrome, suicide prevention, injury or disease prevention, or any of the many areas of mental and public health addressed in *Alaska Medicine*; we have enough information now to demonstrate the importance of continuing the study of circumpolar health issues and the importance of maintaining adequate funding for this endeavor.

As Alaskans, our goal should be to continue to take the lead in developing cooperative circumpolar health efforts. As Alaskan health professionals, we have the primary responsibility to constantly remind those in policy-making positions of that goal. I urge each of you to learn more about the benefits of sharing health information across borders. Join with your colleagues who have participated in one of the medical exchange expeditions in expressing your support for this area of study so critical to the future health and welfare of Alaskans.

Sincerely;



Theodore A. Mala, M.D., MPH  
Commissioner

# SEXUALLY SPEAKING . . .

## WHEN THE RECIPE FOR BABY MAKING DOESN'T WORK THE PSYCHOLOGICAL ASPECTS OF INFERTILITY: PART I

### IN SEARCH OF THE MAGICAL RECIPE

By Mary B. Cavalier, M.S.<sup>(1)</sup>

Making a baby seems so easy, so natural. Follow the recipe for having sex, minus the birth control, and a baby is sure to follow, right? Yes, for many, no for some. Many couples come to the painful realization that making a baby is not so easy and definitely is not as natural as the recipe would imply. This article will explore common psychological stressors which occur within the relationship and for the individuals and suggest some preventive measures which may be of assistance for your patients.

#### What is **WRONG** with me?

When a couple makes the decision to have a baby, they may fall in to the misconception that it will happen immediately. After all, look at all the pregnant women walking around. It can't be that hard. But when months of trying flows into a year, the couple begins to wonder what is wrong. It is at this point that the woman will consult her doctor.

Addressing the issue with the doctor may be very stressful. Along with the fear of infertility comes a sense of failure, imperfection, embarrassment, and shame. These emotions are powerful ingredients which are important to explore while doing an assessment. If any of these ingredients are present, they will not only sabotage a treatment plan, but can lead to other complications such as depression, anxiety, relationship discord, etc.

#### WHERE do I take my temperature???

The first step in solving the mystery is to make sure the recipe has all of the necessary ingredients to make a baby, therefore, the collecting of data begins. The patient walks out of the doctor's office with charts, instructions of how to take a basal temperature, information on the menstrual cycle, mucus etc. . . Many times I've listened to women grimace, ". . . and then do you know WHERE I'm suppose to take my temperature? YUK!" Combine the discomfort of the basal method with the emotional ingredients and the

patient may disappear for awhile, if not for good along with a deep sense of failure.

#### And Now For the Man . . .

A semen sample may be needed to complete the data. Often the woman is given a jar and is told to ask her partner to provide a sample. A simple enough request on the surface. But, like the woman, the man may also have a load of emotional ingredients which come oozing out. This "simple" request may be experienced as an attack on his "manhood." Feelings of inadequacy may be present. Also, the man may feel intimidated by the fact of having to ejaculate into a small jar and deliver it to a laboratory. All of these feelings may be directed towards the woman in the form of hostility.

Assuming the man overcomes his fears and the semen analysis is completed, he may then experience a blow to his self esteem if the results indicate a low sperm count. Encouraging him to talk about such feelings would be helpful for him in the long run.

There is yet another ingredient which is often not discussed: the need to perform sexually on the ovulation schedule. Men will report feeling objectified, "used." This may lead to impotence.

#### And For the Couple. . .

Between the woman taking her temperature every morning, the man needing to perform on schedule, both of them needing to have intercourse when not truly desiring it, we have the makings of a big explosion. It is common for couples to begin to blame each other, question their love, trust, desire for a baby, and experience feelings of rejection and abandonment.

Unfortunately, many couples do not have the skills to address such powerful feelings and a deadly silence creeps into the bedroom.

---

<sup>(1)</sup> Robert Alberts, M.D. & Associates, 3340 Providence Drive, Anchorage, AK 99508.

(continued on page 111)



# Alaska Nursing Home Takes National Role in Addressing Urinary Incontinence

Michael Patrick McNees, Ph.D.<sup>(1)</sup>

Susan R. Stone, B.S.<sup>(1)</sup>

Mark E.N. Agnew, M.D.<sup>(2)</sup>

John F. Schnelle, Ph.D.<sup>(3)</sup>

Joan Fisher, B.S.<sup>(2)</sup>

## ABSTRACT

Urinary incontinence affects over half of all residents in the nation's 25,000 nursing homes. While incontinence assessment, treatment and management techniques have been validated under "laboratory" conditions, the practicality of maintaining the systems pose difficulties for most nursing homes. An evaluation of a new automated system for managing urinary incontinence indicates that a nursing home in Anchorage, Alaska, has successfully implemented and maintained the new system for over ten (10) months. Researchers found that The Mary Conrad Center quickly reduced wetness rates in the target group from 25 percent prior to implementation of the program, to about eight percent and have been able to reduce wetness rates to even lower levels in subsequent months. The evaluation provides critical evidence that nursing homes can implement and maintain the comprehensive system. If further testing in other facilities result in similar findings, the system stands to impact the quality of care for over one million nursing home residents affected by urinary incontinence.

The Mary Conrad Center has taken a lead role in the assessment, treatment, and management of urinary incontinence. The facility has recently completed the first implementation and evaluation of a new comprehensive continence management system that stands to impact the care of incontinent nursing home residents.

Urinary incontinence is typically considered as a condition resulting from an inability to control bladder functions. The impact is often reflected in an increased risk of other medical complications, increased health

care cost and the loss of individual dignity. However, according to Dr. Mark Agnew (medical director at the Mary Conrad Center) incontinence has been considered a "normal" part of the aging process for too long.

To address the issue, Mary Conrad entered into a collaborative effort with John Schnelle and Patrick McNees. Dr. Schnelle is a nationally recognized scientist and incontinence expert from the University of California at Los Angeles. Dr. McNees heads an Alaskan firm specializing in translations of proven laboratory techniques and interventions into workable systems for normal health care settings.

During the past ten years, the National Institute on Aging has funded Schnelle's research which has led to the identification of a bladder retraining intervention which is generally referred to as "prompted voiding." The procedures rely heavily on consistent staff engagement with residents and utilization of specifically defined staff techniques. When used correctly, about one-half of all residents will become more, or completely continent. An assessment system for identifying responsive versus unresponsive residents for the program has also been scientifically validated.

While the procedures have been known to be effective for some time, Schnelle pointed out that nursing homes simply could not maintain the program without ongoing high levels of support from his staff. For this reason he joined forces with Dr. McNees to create an automated system that provided essential information for appropriate assessment and quality control.

Schnelle, McNees, and their staff spent several days at Mary Conrad implementing and teaching staff to use the system. Funding provided through the Small Business Innovation Research (SBIR) program at the National Institutes of Health allowed for an evaluation of the system at Mary Conrad.

McNees said, "The results were somewhat surprising. To evaluate Mary Conrad's ability to maintain the

<sup>(1)</sup> North Rim Systems, Anchorage, Alaska.

<sup>(2)</sup> Mary Conrad Center, Anchorage, Alaska.

<sup>(3)</sup> UCLA Borun Center for Gerontological Research, Los Angeles, California.

system. we established the incontinence rates prior to providing the system. Subsequently, our staff worked with the Mary Conrad staff to reduce incontinence rates to the lowest level that we thought possible. We would have assumed that the management components of the system were effective if Mary Conrad staff could maintain incontinence rates somewhere between where they were to begin with and where we were able to get them. In fact, the Mary Conrad staff have reduced incontinent rates even lower than we could get them. While I can't explain the exact reasons for this unexpected success, it serves as a testimony to the dedication of Mary Conrad staff to providing the highest quality care possible."

Director of Education and Training, Janet Enos suggests that the effects of the program may be even more dramatic. It appears that the program may be reducing the prevalence of urinary tract infections. The facility is currently collecting additional data to provide more conclusive evidence for this observation.

Carol Smith, the Quality/Risk Manager at Mary

Conrad, indicated that while the assessment and treatment system produces the results, it is the quality control system that quickly detects any slippage. "Quality control based on meaningful resident outcome data is the stimulus that keeps us focused on the task at hand. Whether we do our job appropriately shows up directly in the resident outcomes. Since the system is automated, it is not difficult to monitor."

McNees said the Mary Conrad Center was applying a quality control strategy for health care that is similar to that in business and industry. "What we have done is worked with Mary Conrad to translate Dr. Schnelle's interventions into a workable system with practical long term benefits. Collectively, we have brought together technology based on principles from medical, behavioral and statistical sciences with quality control principles from business and industry and currently available computer technology to address a pervasive health problem. We hope that this may be the beginning of a complete quality care technology for serving people in long term care settings."

Due to the success of the continence management system, Mary Conrad staff, McNees and Agnew are turning their attention toward expanding the resident quality control system in order to deal with problems associated with nutritional consumption and body weight. The work has already resulted in the identification of a method for detecting trend shifts in body weight and nutritional intake that would serve as an early warning indicator for persons who are potentially at risk.

In terms of what is next for the continence management system, McNees stated that Mary Conrad has now proven that the system can be maintained. However, because nursing home are different McNees has applied for a second grant from the National Institute on Aging. If funded McNees' firm would be the first in Alaska to receive a Phase II SBIR grant and would allow for the system to be further tested in selected nursing homes across the nation and to evaluate different strategies for training the people who will be implementing the system nationwide. McNees did point out, however, that many facilities are deciding not to wait for those results to come in. They are convinced that they will benefit now and do not want to wait.

McNees said, "It gives me a great deal of satisfaction to know that an Alaskan nursing home was the first to implement the complete system. Another Alaskan nursing home will be included in the next evaluation of the systems effectiveness. It is possible that Alaska may emerge as a showcase for the rest of the nation."



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# Alaska Nursing Home Receives National Award for Excellence

Susan R. Stone, B.S.<sup>(1)</sup>  
Deborah Warnke<sup>(2)</sup>

The Mary Conrad Center in Anchorage has been selected as one of two nursing homes in the nation to receive the 1991 Order of Excellence Award from Bill Publications, Inc. (New York) and *Contemporary Long Term Care* (Akron). The award was established this year as a "hall of fame" recognition for organizations that exemplified high quality and innovation in long term care. Mary Conrad was recognized in the "under 110 bed" category.

The Mary Conrad Center is a 90 bed facility owned by Cook Inlet Housing Authority and managed by Sisters of Providence Health Corporation. While Mary Conrad is a relatively new facility, opening in 1987, Sisters of Providence have been providing health related services in the West since 1856 and currently operate facilities in Alaska, Oregon, Washington and California.

*Contemporary Long Term Care* is widely distributed among the nation's 25,000 nursing homes. The December 1991 issue carried the awards announcement. The December feature was the second article regarding the Mary Conrad Center that the journal has published in the past twelve months.

Administrator Joan Fisher indicated that she was particularly pleased that Mary Conrad was recognized in the first year of the awards. The award represents industry

<sup>(1)</sup> Research Associate, North Rim Systems, Anchorage, Alaska.

<sup>(2)</sup> Public Relations Coordinator, Mary Conrad Center, Anchorage, Alaska.

recognition of the efforts, dedication to care quality, and innovations. The facility's orientation to innovation is exemplified by the Center's primary mission to provide the very best care possible for the residents. Mary Conrad provides an environment which fosters creative approaches to not only improve the service to the residents, but ideally, to positively contribute to improved long term care across the nation.

Medical Director, Mark Agnew, points out that there is an emphasis on the continuous monitoring of clinical

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. . . recognition for organizations that exemplified high quality and innovation in long term care.

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problems coupled with early intervention. Maintaining optimum functional status in frail elderly nursing home residents is a challenging task. We believe that the presently available resources of medical and nursing care are capable of being made much more effective through the use of better systems for the display and management of clinical information.

As elements of such information and management systems are validated, it is hoped that the findings will provide better methods for meeting the needs of nursing home residents.

It was this unique perspective regarding the relationship between ongoing care quality and innovation that resulted in Mary Conrad being selected as the first national test site for a comprehensive system for urinary incontinence. A more detailed description of the urinary incontinence program is exemplified in another article in the present publication.

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# American Society for Circumpolar Health

Summer 92

## ASCH Members

Ready, get set, .... The Ninth International Congress on Circumpolar Health will be held in Reykjavik, Iceland, June 20 - 25, 1993. The call for papers is available now. If you need additional information contact one of the three following persons.

- Dr. Gudrun Petursdottir  
Secretary General of IX ICCH  
Vatnsmyrarvegi 16, IS-101  
Reykjavik, Iceland
- Dalee Sambo  
Executive Director IUCH  
P.O. Box 141594  
Anchorage, AK 99514  
(907-786-1275)
- Carl M. Hild  
President ASCH  
P.O. Box 242822  
Anchorage, AK 99524  
(907-276-2864)

The Icelanders are planning for at least 600 participants and have taken over the entire University of Iceland campus and a first class hotel that is located in its midst. Plans are underway for arranging transportation at reduced rates for participants through Icelandic Air. There will be special tours for accompanying family members, and post-Congress tours are scheduled. As more details become available we will be placing the information in this column.

The time is now to begin planning your attendance. It is time to begin to make travel arrangements. It is time to draft abstracts, and prepare data for presentations. It is time to calculate if you can attend additional meetings or tie in other activities. The International Congresses on Circumpolar Health, I personally feel, are the most exciting, stimulating, and energizing meetings I attend. Once every three years, those who are doing health work in the polar regions share tremendous amounts of material. The Proceedings of the Congresses are becoming collectors items of the history and development of Arctic Health Science. I look forward to mine to catch up on all the sessions I was unable to attend and to refresh the excitement of the ones I most enjoyed.

At each of the circumpolar health meetings I attend it never ceases to amaze me of how the problems of the region are so similar. Dr. John Middaugh and I attended an Accident (Injury) Prevention Symposium in Rovaniemi, Finland in February. The comments we heard from other participants in many ways mirrored what we are seeing in Alaska. Yes, there were differences but not as many as if we had compared our data to that of Georgia, or Pennsylvania within our own country. The problems of the far north have common themes.

Clothing is protection from the cold but is hobbling in its bulk. This effect leads to awkward movement and concerns of falls, uncomfortable working conditions due to equipment design not taking into account the need for extra room, the additional work load of moving the clothing as well as an object, and hampered vision due to frost or obstruction. There are the effects of cold dry air in upper respiratory health and skin irritation, light patterns on behavior and work performance, sleep disturbance on attitude, and isolation on substance abuse. It is not merely "Cabin Fever," as there really are lessons to be learned by looking at living in the far North.

The proceedings of the Injury International meeting in Finland will be produced and distributed as a special supplement of Arctic Medical Research, the official journal of the International Union for Circumpolar Health of which we are a member. That publication is slated to be out by late summer. One of the recommendations from the meeting, which was approved a few days later by the IUCH Council, was the establishment of a special Working Group on Injury. It is anticipated that there will be a meeting of that group during the Icelandic Congress.

The IUCH Council did meet in Iceland in February and discussed general business and the specifics of the upcoming Congress in 1993 with the local organizing committee. The Council has recommended along with the Working Group on Injury that similar groups be formed on Fetal Alcohol Syndrome per a request from our Society in response to interest from the Federal and



State governments, and one on Environmental Health per a request based on the Finnish Initiative of arctic monitoring of pollution.

In addition to facilitating the Accident (Injury) Conference and planning for the next ICCH the International Union for Circumpolar Health has been requested to assist IASC. The International Arctic Science Committee (IASC) is a formal scientific organization that has been established to coordinate polar efforts. The health sciences are not specifically represented in this endeavor that falls under the National Science Foundation as the United State's participating organization. The IUCH has been requested to report to the IASC on its activities and to prepare a mechanism for exchange of information. As a part of the IUCH our Society will play a roll in providing information on the needs of arctic health science research.

It seems so wondrous that Dr. Earl Albrecht and Dr. Fred Milan should host the 1967 meeting in Alaska to start an informal international process of exchange of health science information. Now a quarter of a century later, others on formal national levels are beginning to form similar alliances and are looking to our volunteer structure for assistance. Professionals sharing important information for the betterment of all residents of the circumpolar regions took a long lead on the political agreements for cooperation.

IASC has been requested to send copies of all of their publications to our Society. These will be kept with our permanent files if there is any interest from our membership on reviewing these documents. Please contact me for more information.

The Albrecht-Milan Foundation of the American Society for Circumpolar Health is proceeding with its objectives. In July 1991 it was formed. Over the past year it has raised funds in order to support the Society. It has been building a structure and selecting trustees. It has taken on the task of learning about estate planning and how individuals can provide support to the Foundation through their wills and planned giving. It is hoped that the trustees will soon begin to meet with individuals to provide them with ideas for contributions to the endowment for support of the Society.

I would encourage all of the readers to consider making an annual contribution to the Foundation and to investigate an estate planning concept as you prepare your will or other formal documents. There are many

of us who have worked hard to improve the health of the people of the circumpolar regions. We can now provide for the continuation of those efforts by planning for the future. It is not only for our personal future but for the organizations to which we have belonged and ideas for which we have worked that we need to plan. Please call me if you would like additional information on estate planning. The Albrecht-Milan Foundation of the American Society for Circumpolar Health is working toward providing better health services and understanding the unique health problems of the polar regions.

The following are some excerpts from the new materials on the Foundation:

The Albrecht-Milan Foundation of the  
American Society for Circumpolar Health  
P.O. Box 243994  
Anchorage, Alaska 99524-3994 U.S.A.  
907-272-3231

The Albrecht-Milan Foundation of the American Society for Circumpolar Health, established in 1991, honors Dr. Earl Albrecht and Dr. Fred Milan who pioneered the concept of sharing health information among circumpolar nations and peoples. The Foundation provides financial support of the Society in its quest to increase awareness of the unique health care needs of the world's polar regions, provide health care professionals with a forum for information, and broaden the quantity and quality of health care. The Albrecht-Milan Foundation assists health scientists and students, health care delivery specialists, health administrators, and health care consumers toward the goal of better health for all residents of Earth's circumpolar lands.

Since the mid 1960's there have been International Congresses for Circumpolar Health held once every three years. The ninth will be in Iceland in 1993. The proceedings and interchange that occur as a result of these gatherings has led to much cooperation and sharing of experiences, data, and research protocols. With the establishment of this dialogue among those concerned with the health of polar populations there has been increased services and interest in the unique health concerns.

The funds of the Foundation are used to achieve the goals as laid before us by Drs. Albrecht and Milan. It seeks to involve the health care consumer in health planning and research activities. It strives to share what is learned with as many health providers as

possible. It works to spread understanding of the unique features of polar health concerns with the general population.

The Foundation is established to handle any and all types of gifts that benefit the work of improving health in polar regions. The Foundation manages gifts of personal property or real estate, is an insurance beneficiary, and receives living trust donation benefits. We encourage you, and will provide assistance upon request from you, to consult with your attorney or accountant to investigate the many ways you can support the Foundation through means that meet all Internal Revenue Service requirements for a nonprofit, tax-exempt organization.

\*\*\* On to other news. The University of Alaska Anchorage is seeking a Director of the Institute for Circumpolar Health Studies. Applicants will be reviewed beginning in February 1992 and will continue until filled for a July 1, 1992 appointment. Anyone interested should contact:

Dr. Michael Dimino, Associate Dean  
ICHS Search Committee  
Biomedical Program  
University of Alaska Anchorage  
3211 Providence Drive  
Anchorage, AK 99508, USA

In addition there may be an opening as Executive Director for the International Union for Circumpolar Health this summer. Anyone interested should contact:

Dalee Sambo, Executive Director  
IUCH  
P.O. Box 141594  
Anchorage, AK 99514, USA

It does seem strange that a few years ago the only positions in circumpolar health were volunteer Board and Officer positions. Now there are highly qualified positions to deal with the international coordination of the expanding health science activities. However, that is not to say we do not also need officers and board members.

The American Society for Circumpolar Health will be holding elections soon. If there are any interested persons, who wish to become involved with this growing movement, and who would like the experience of working on our Board of Directors please contact us by telephone as soon as possible. We are currently trying to fill four positions in our Society. President,

Vice-President, Secretary, and Treasurer. We would like to have a full slate of candidates of interested and energetic individuals to present to our membership for this election. The officers will take over at our Annual Meeting which is being scheduled to be in conjunction with the Alcohol and Drug Abuse Prevention Symposium, November 15 - 19, 1992 in Anchorage. The theme of this year's meeting is "Strengthening Youth/Adult Partnerships."

In addition to overseeing the operations of the Society for the next three years, the officers will need all of our members support for the planning and hosting of the Tenth International Congress on Circumpolar Health which will be held in Anchorage in late May of 1996. This is a massive task and goes far beyond the officers and board members. We need to now begin to seek support, and identify individuals and groups who will assist in the delivery of this program.

In 1984 we hosted the 6th ICCH in Anchorage. Dr. Fred Milan was the President of the Congress and the University of Alaska was contracted to be the coordinating body. There were requests to numerous funding sources to make this event a success. We need to begin to identify our supporters and lay the groundwork for this very important meeting. In 1996 it will be 29 years since the first meeting in Fairbanks, and it will be the third held in Alaska. This is an important time to draw on the expertise of our membership. Please let me know if you are interested in participating in planning this meeting and what area holds most interest to you. There is much to do and many people helping with a variety of parts will make it go smoothly.

In conjunction with our annual meeting in 1991 we linked with the Alaska Council on the Prevention of Alcohol and Drug Abuse, and the State of Alaska to host a one day meeting on Tobacco use. This stemmed from the IUCH Working Group on Tobacco meeting several years earlier. Several of the papers from that workshop have now been prepared and submitted to Arctic Medical Research for publication. It is anticipated that similar cooperative ventures will enable a broader audience to participate in our Society. We most recently were a co-sponsor to the Alaska Health Summit held in late April and attended by nearly 400 individuals. We had a small display at that meeting with information on the 9th ICCH and our publications.

The American Society for Circumpolar Health is expanding. We have fostered greater interest in the health needs of the people of the North. We have been



a catalyst for discussion and a sounding board for research ideas. Our membership is growing and we are looking forward to bigger meetings, more frequent workshops, and a more sound financial base from which to operate. I encourage your participation in whatever means you can.

Naturally;

Carl M. Hild

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## EFFICIENT APPOINTMENT SCHEDULING REDUCES DELAYS AND PATIENT ANGER

*Last year, an impatient patient in Florida sued his physician in small claims court for a wage loss the patient claimed he incurred as a result of being kept waiting too long in the doctor's office. The patient won his case and the doctor paid the judgement.*

Not every patient who is upset by being kept waiting to see a doctor considers suing, but according to most patient satisfaction surveys, few things anger patients more than a long wait to see the doctor. Some scheduling delays are unavoidable and justified, but in too many medical practices, inordinate delays are the rule rather than the exception. Even if patients are not moved to litigate, insensitivity to their time constraints damages the doctor-patient relationship and is a leading reason patients change doctors. Better planning can help physicians and their staff to minimize appointment delays and diminish discontent. Informing patients about what to expect (see Figure 1) reduces their anger and anxiety when waiting is unpreventable.

**Appointment time should fit the need:** A common reason for schedule backup is that many receptionists assign the same amount of time for all appointments and expect that the unequal time needs of patients will allow the doctor to stay on schedule. Unfortunately, one miscalculation can delay all subsequent appointments. A better approach is to assign appointment times on the basis of patient needs. The doctor can estimate the time needed to see a postoperative patient, treat a cold or flu, conduct a pre-employment physical, and so on. When patients call for an appointment, a trained aide can perform "telephone triage" to determine how much time to set aside for the visit.

A second reason for schedule backups is double-booking a time slot, a practice that virtually ensures delays. As fees for office visits continue to climb, few patients are satisfied with an encounter that lasts less than 10 or 15 minutes. Each patient expects and deserves a sufficient amount of the doctor's time to present complaints, undergo appropriate examinations or tests, and to hear the doctor's recommendations. A frequent complaint that surfaces in malpractice litigation against physicians

(particularly those who are sued for a missed or delayed diagnosis) is that the office visit was hurried and perfunctory.

How much time is enough? Doctors should ask colleagues, or try role-playing with members of their staff or family members to measure the minimum time needed for typical problems.

**Schedule a "business" block:** Some patients want to get in and out of the office as quickly as possible and don't mind a short visit if the hour is convenient. Consider opening the office early one day a week and use the time to schedule business people who have to get to work. An alternative is to keep the office open later one day a week to accommodate business people or homemakers who cannot leave children at home until their spouse returns. Some physicians schedule elderly patients and those who have multiple medical problems in a block at the end of the day in order to ensure these patients receive the additional attention they need.

**Only one appointment slot per person:** Patients create schedule backups when they show up for their own appointment with several children or a spouse in tow and expect the doctor to examine and treat them all. Let patients know that each person the doctor sees must have his or her own appointment. Some patients may not be aware that, like theatres, airlines, and restaurants, the doctor's charges are based on services rendered to each patient, even if several family members arrive at the same time and have the same medical problem. If more than one person shows for a single appointment, offer to see the extra patient at the end of the regular appointment schedule, so that other scheduled patients are not inconvenienced.

**Expect the expected:** Obstetricians and surgeons are more likely than other doctors to be detained outside the office. While the patients who are delivering babies or having surgery know this, those waiting in the reception room may not — unless someone tells them. If the doctor is frequently delayed, when patients make appointments, ask them to call the office for a status report an hour or two

before their scheduled time. Some patients may choose to reschedule, run errands, or use the extra time for something other than waiting for the doctor.

**An apology thaws icy anger:** The patient surveys that find waiting time is a major irritant in doctor-patient relationships also have found that a simple apology for the delay satisfies most people. Telling patients when they arrive for their appointment that there may be a delay may disappoint them a little, but the forewarning lessens their impatience. Aides should tell arriving patients approximately how long the delay will be and offer an apology for the inconvenience. Patients are impressed even more when the doctor apologizes. Few patients remain angry when the doctor says, for example, "I'm awfully sorry we kept you waiting. We had a few

problems that took a little more time than we anticipated. I hope you'll forgive us for the delay."

**Make use of waiting time:** Use some of the patient's waiting time to take care of important business. Ask patients who have not been seen within the past 6-12 months to update information on their registration form, or to provide an update of medication use, the names of other doctors they are seeing, and allergies developed since the previous visits.

Many physicians stay on schedule by having aides take and document vital signs, obtain basic triage information (nature of the problem, duration of symptoms, etc.) before the doctor enters the treatment room.

Figure 1. Handout for Patients

### APPOINTMENT TIPS FOR MY PATIENTS

I know your time is valuable. Unfortunately, scheduling delays do occur and sometimes cannot be anticipated. It may be necessary on occasion for you to wait beyond your appointment time. I apologize in advance for delays, and assure you my staff and I will do our best to keep waiting time to a minimum. These suggestions will help us reduce appointment delays:

- Keep your scheduled appointment. If you cannot, please call the office as early as you can so that we can free your time for another patient. If you are going to be late, call us and we'll try to re-schedule you in the same day.
- My staff is trained to interview patients on the phone on my behalf so that we can set aside enough time for your needs. When you call for an appointment, you may tell my aide in confidence the reasons for your visit.
- Each patient must have his or her own appointment. Please do not bring more than one person for examination or treatment unless you have asked us to set aside time to see them. We will be happy to schedule additional appointments if we know in advance.
- Please call the office an hour or two before your appointment. Our staff can tell you if we are on schedule or experiencing delays.
- In order to give all my patients the time and attention they deserve, I accept non-emergency calls between appointments or after XX pm. I return patient phone calls between the hours of *aa* and *bb*.
- If you experience problems or unusual delays, or have suggestions on how we can improve service to our patients, please let us know. We welcome your comments.

Thank you for your cooperation and understanding.

John B. Good, M.D.  
123 Main Street Yourtown, USA  
555-5555



Additional suggestions for reducing scheduling snafus:

- Except for emergencies, physicians should not accept phone calls during a patient's visit. Taking personal calls about finances, home, or social events during a patient's explanation of an illness or an exam is unprofessional and may offend patients who believe they deserve and are paying for the doctor's attention. If a call is from another doctor and cannot be delayed, have the conversation outside the presence of the patient in the exam room to avoid breaching another patient's privacy. Ask aides to not interrupt an examination unless there is some urgency.
- If your office habitually runs behind schedule, conduct a time study to locate bottlenecks. Ask an aide to record the time each patient is scheduled to be seen and for how long, the nature of the problem, and the actual time of the appointment. The study may indicate types of medical problems for which insufficient time is routinely allotted.
- If a patient misses or is late for more than two appointments, consider scheduling his or her future appointments at the end of the day.
- Prepare an appointment tip sheet for patients, such as the sample in Figure 1. Post a copy in the reception area. Periodically ask patients to comment on your scheduling practices.

Loss Minimizer is a risk management feature in the Medical Liability Monitor Newsletter, P.O. Box 9011, Winnetka, IL 60093. © 1990, David Karp. Used with permission.

(continued from page 100)

### **An Ounce of Prevention . . .**

I've pointed out just a few of the emotions and issues which arise when a couple is working on having a baby. Here are some suggestions which may help ward off problems.

1. A team effort. The partner should be invited in to the session where infertility information is given. This will provide him with a clear understanding of all of the factors involved.
2. The doctor and/or nurse may want to provide the information for the semen sample directly to the man. This will enable the man to ask questions, and may diminish the woman's feeling of rejection if he refuses. If the man refuses, it will also provide more information for the doctor in the assessment of the problem.
3. Educate both partners on emotions which may arise for them. A couple of these emotions may be inadequacy and a sense of failure. It is important to stress that these are natural feelings and encourage them to talk about these feelings with you, another profes-

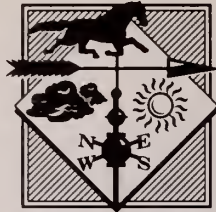
sional or among themselves. The key thing is to have the emotions out in the open.

4. To avoid sex becoming a task, the couple may want to create a difference between making love and inseminating sex. This division may decrease performance anxiety and the feeling of being "used." The division may also allow the couple to enjoy making love at other times.

### **CONCLUSION**

The psychological aspects of the beginning exploration of infertility are many and varied. I have tried to touch upon the major issues such as a sense of failure, performance anxiety, blaming etc. I also tried to point out some factors which may help the patient in dealing with these overwhelming feelings. Team work is a key part in helping the couple deal with the feelings.

In part II, I will continue to explore the psychological aspect associated with infertility.



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(continued from page 98)

raving lunatic is chained to a hospital bed by thick, rust-colored leather restraints coiled about each appendage. "He's never been the same," the head nurse explains as she scurries past me. Humbled and disheartened, I glance upward to acknowledge what I have done.

Thomas M. Gill, M.D.  
Yale University School of Medicine  
New Haven, CT 06510

#### REFERENCE

1. Murphy DJ, Murray AM, Robinson BE, et al. Outcomes of cardiopulmonary resuscitation in the elderly. *Ann Intern Med.* 1989;111:199-205.

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# History of Medicine in Alaska

## JIM PARSONS

We will call him that because it is how he is known even though he claims the full name of Adolphus Cecil James Parsons. Born in Brooklyn of parents who were fourth generation Newfoundlanders, he was to grow up in the heady atmosphere of an Adventist family.

During World War II, he served in the U.S. Army medical corps as a staff sergeant and was honorably discharged in 1946.

He received a B.A. in Biology and English from the Pacific Union College in Angwin, California in 1948. Then back east to earn an M.A. at Columbia University Teacher's College. He had been accepted at the medical school but chose psychology, in which he obtained a professional diploma from the same University in 1957. Because of these associations, he was able to sing in the Columbia Graduate Choir, performing Fauré's "Symphony of Psalms" under the direction of the late Leonard Bernstein.

Jim came to Alaska in 1952 to become the first clinical psychologist in the Territory. His license in New York was honored in Alaska. Later, he served on the State Board of Psychologists and Psychological Associates for many years. In 1952 the Commissioner of Health, Dr. Earl Albrecht, received a federal mental health grant for \$25,000 from which Jim Parsons received \$7,200 which enabled him to serve Ketchikan, Seward, Nome, Kodiak and Barrow.

Because he became interested in the students in the schools he visited, he ran for the Anchorage School Board and in 1954 was elected by a landslide of four votes. During his two-year term, he worked with the late Judge Edward Davis, Cliff Groh, Keith Lesh and John O'Shea, sometimes enduring meetings that lasted until 4 a.m. Jim had to walk a balanced line among his duties on the school board, in the bush, and singing with the community chorus.

As the territory's only psychologist between 1953 and 1960, he was busy. He remembers interviewing a schizophrenic who spoke only Yupik through the translation of another schizophrenic who spoke both Yupik and English.

In 1954, Jim entered part time private practice. He started in Dr. James O'Malley's office on "I" Street between 5th and 6th Avenues. This was a heavily used office since Dr. O'Malley had a large practice and his

wife, Dr. Virginia Wright, practiced psychiatry there three afternoons a week. Jim worked after hours. Virginia and Jim were instrumental in starting both the local and the state mental health associations.

1960 was an important year for Jim Parsons. He became a member of the faculty of the newly founded, private four-year college in Alaska, Alaska Methodist University, now called Alaska Pacific University. He was associate professor of psychology and education and stayed in this position for fourteen years, becoming tenured. During this time AMU was an outstanding liberal arts college.

Also in 1960 he was elected to the State House of Representatives, to which members from Anchorage were elected at large. Though the legislature only met for ten weeks, Jim performed another balancing act between his public duties and his teaching at the University. In the House, he became chairman of the Health, Education and Welfare Committee neatly interrelating his many interests.

Jim amazes everyone with the variety of his concerns and the many organizations he has energetically supported. He was on the City of Anchorage Parks and Recreation Commission for eight years, serving as chairman at a time when many parks were acquired. He was elected to the Charter Commission that wrote the document which united the city and the borough. The otherwise admirable Alaska Constitution had inadvertently created a monster by allowing two governments in one geographic area. The Charter was written to rectify this.

He has been involved with the Anchorage Concert Association since 1953 and with the World Affairs Council since 1970.

Since 1974, he has served as consultant to the Alaska Department of Labor, Hope Cottage and more than fifty bush schools. He was manager of the Division of Behavioral Health for the municipality, 1983-85, and after that was a clinician at the Alaska Psychiatric Institute.

For Jim Parsons private practice has been a part time activity and remains so today. He shares an office with Dr. Dorothy Whitmore. His practice has included innumerable custody evaluations and court appearances.

Relaxation has included skiing, gardening, and touring with the Community Chorus. He has visited England, the Continent, and New York City, appearing at Carnegie

(continued on page 121)

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He remembers interviewing a schizophrenic who spoke only Yupik through the translation of another schizophrenic . . . .

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# GLIMPSES OF ALASKAN MEDICAL HISTORY

Edited by Robert Fortuine, M.D.

## ALEUT HEALERS AND THEIR HERITAGE (1824-1834)

One of the most striking figures in Alaskan history is Ivan (or Ioann) Veniaminov, the great Russian Orthodox missionary and church leader. Born in 1797, he grew up in Irkutsk, Siberia, where he graduated from the local theological seminary in 1820. In 1823 he volunteered to serve as a missionary to the far-off Aleutian Islands, where he ministered as a priest to his flock in the Unalashka District from 1824-34. During these years he built churches, traveled extensively, compiled a detailed grammar and dictionary of the Aleut tongue (applying a modified Cyrillic alphabet still used by the islanders today), and wrote a vast compendium of information on the islands and their people. This book, modestly called *Notes on the Islands of the Unalashka District*, is the source of the text given below, and remains today the premier document on Aleut ethnography.

Veniaminov was transferred to New Archangel, or Sitka, in 1834, where he labored with modest success until his return to Russia in November 1838. Following the death of his wife he took monastic vows and henceforth became known as Archimandrite Innokentii. In December 1840 he was consecrated the first Bishop of Kamchatka, the Kurile Islands, and the Aleutian Islands. Over the greater part of the next decade he served his enormous diocese from Sitka, where he built and dedicated the original St. Michael's Cathedral in 1849. After a long period of work in central and eastern Siberia, Innokentii was chosen by the tsar in 1868 to be the Metropolitan of Moscow, the highest post in the Russian Orthodox Church. He died in 1879 and nearly a century later was canonized by the church as "St. Innocent, Apostle to the Aleuts, Enlightener of America."

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"Aleut physicians were renowned for their skill. In order to establish fundamental knowledge of the internal organs of the human [body], especially those [places] on which they performed operations, they did autopsies of deceased slaves and killed enemies. With the arrival of the Russians, however, . . . their art of healing began to decline so that at the present time not one skillful physician as there were formerly is to be found. (I yet happened to meet several old Russians, who were treated by Aleut physicians and who had the best possible opinion of the latter). Even many grasses and roots which were formerly utilized in their medicine are now totally forgotten. [This is] because the first civilizers among them, that is, the Russian old voyagers, not able to

differentiate between the secrets of the Aleuts' healing art and sorcery and shamanism, prohibited everything without distinction, calling it a sin. Of course, there are still some among the Aleuts who know this art in some degree, but, from fear, they conceal it from the Russians. . . .

"The chief treatment for these and their other diseases consisted of *patience* [terpenie] and a *strict diet*, so that in cases of dangerous illness, except for medicine and mouth wash, they gave the sick person no more than two spoonfuls of water in the course of a full 24 hours. . . .

"Puncture [kolot'e] was used as the very last resort if a patient was in critical condition. Moreover, this remedy of puncturing was also used in very many other diseases. For example for eye pain they pierced the skin between the eyes, lifting it from the bone, or at the temples or nape of the neck and so forth. To sum up in one word, there is almost no place on the human body, except for the eyes themselves, which they would not puncture in a condition of illness. I knew an Aleut who was punctured more than 40 times in different places [of the body].

"Such operators were very much renowned for their skill, which they passed on only to their favorite children and grandchildren. And that is why this skill is almost completely lost nowadays.

"They [as other peoples] practiced ordinary blood-letting but only from both arms and legs. It was used to destroy large swellings, to revive deadened blood and in a case where the patient has a feeling of sluggishness or weakness in all his limbs or a headache, or when his appetite is lost . . . .

"They have yet another method of curing all internal illnesses, in general, practiced exclusively by old women and which is called to *hold the belly* [*derzhat' briukho*]. For instance, if a patient feels a gnawing or a pinching sensation in the stomach or something similar to that, he is placed on his back and the Aleut [female] physician [*lekarka*] with both hands *holds* his belly, lightly massaging and manipulating [*pravila i perebiraia*] with her fingers the internal organs in order, they say, to bring them back into orderly arrangement, to place everything into the proper places. Many who have experienced this method of treatment commend it."

### REFERENCE

Veniaminov, Ivan. *Notes on the islands of the Unalashka District*. Trans. by Lydia T. Black and R. H. Geoghegan. Edited by Richard A. Pierce. Kingston, Ontario: Limestone Press, 1984, pp. 290-293.



FROSTBITE UPDATE by Alaskan frostbite specialist

## William J. Mills, M.D.

The entire March 1993 issue will be devoted to cold injuries with a republication of the two 1973 original articles by Drs. William Mills, Robert Whaley, and Winthrop Fish. A summation of Dr. Mills' total experience, including accidental hypothermia, immersion injury, and freezing injury will be included.



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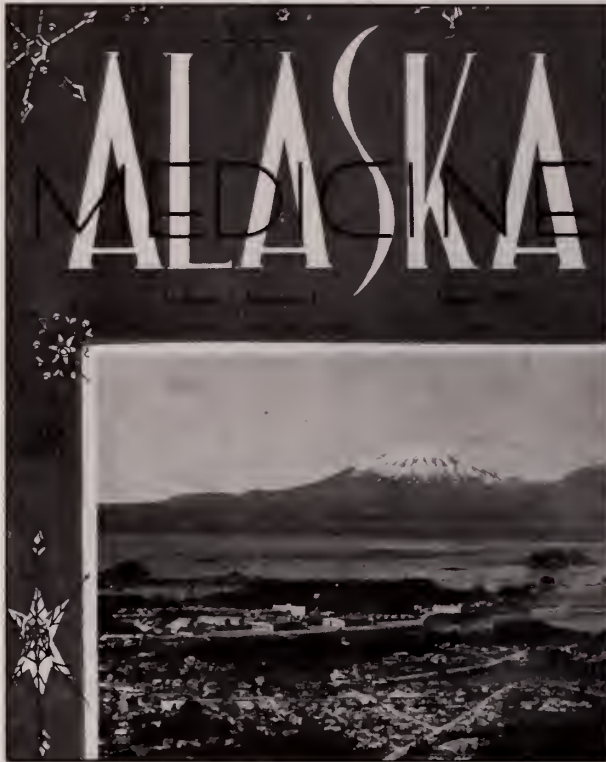
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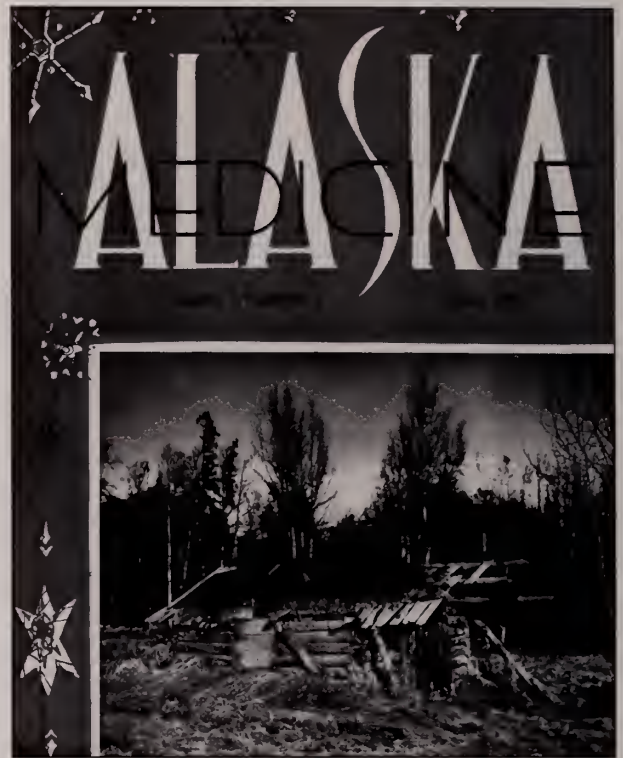
# From Out of the Past — Over 30 Years Ago

by Gloria K. Park, M.D.



Volume 3, No. 1 Cover

March 1961



Volume 3, No. 2 Cover

June 1961



F. J. Phillips, M.D.

*"A Preliminary Report of Out-patient Treatment of Pulmonary Tuberculosis"*

Outpatient treatment is reviewed, especially the ACP (Ambulatory Chemotherapy Program) with the advent of INH and PAS. This was a joint program by ADH, ANHS and AHRC. [With such an alphabetical array of terms, it was no wonder patients told me they took a handful of ACP's everyday!]



Phyllis Kempton  
Virginia Wells

*"The Genus Amanita in Alaska"*

An article on poisonous mushrooms by nationally recognized local authorities on Alaska mushrooms.





John Tower, M.D.

*"Hypertonic Dehydration: Diarrhea With a Difference"*

Dehydration in infants is described and what can be done with Lytren, 7-Up, Jello water and OES (oral electrolyte solution) and when to start IVs.

**Report from Division of Public Health**

Early in 1961 a caribou made a surprise attack on a cat train hauling supplies to one of the DEW Line stations near Barrow. The animal was killed and found to have rabies. There have been two recent outbreaks of trichinosis, both caused by inadequate cooking of bear meat. There were 18 cases confirmed in Bethel and six suspects in Goodnews Bay.

The polio season is approaching and the following table shows reported cases 1950-1960.

**ASMA Annual Meeting 1961**

Resolutions were passed regarding a tumor registry, rabies control, mental health funds from the land transfer, revision of the Alaska Medical Practice Act, and need for a paid lobbyist.

Editorials of 1961 reflected on socialized medicine, health insurance and medical care of the indigent.

**Muktuk Morsels**

One hundred Alaska physicians attended the Lederle Seminar.

New Ketchikan hospital will have 44 general beds and 16 long term beds. Dr. Phyllis Smith is chief of staff. API is 33% complete.

New Providence Hospital is 22 percent complete. Third annual Pediatric Neurology Clinic was held with consultants from the University of California.

Fourth annual Heart Clinic was held with consultants from Stanford University.

Drs. William James and Jack Hepler completed tours with the Coast Guard and then assigned to Tanana and Kakanak respectively.

PHS physicians entering private practice included Drs. Mahlon Shoff, Elmer Gaede, Fred Hillman and Tom Kiester.

Dr. Milo Fritz performed 71 T&As in St. Marys with John Spahn (optician) manning the ether machine.

On another trip there were 150 T&As by Dr. Fritz and 102 Pap smears by Dr. Nancy Sydnam. These trips were made possible by the EENT Foundation of Alaska and the Alaska Division of the American Cancer Society.

Dr. Joe Ribar, mayor of Fairbanks, is the new President of ASMA.

POLIOMYELITIS CASE												
Reported to Department of Health and Welfare												
By Month of Onset 1950-1960												
	1950	51	52	53	54	55	56	57	58	59	60	Total
January					33							33
February				10	4		1	1				16
March					8	5		2				15
April				4	9		2		1			16
May					1	1	2				2	6
June	2			5	12	1	1			1		22
July		9	1	18	59	4				8		99
August		1	1	7	97	21	2		1	4		134
September	13	2	1	4	66	16	3	1		3		109
October	42		26	8	63	7				4		150
November	7		35	7	16	2				6		73
December	19	1	20	1	4					1		46
<b>Total</b>	<b>83</b>	<b>13</b>	<b>84</b>	<b>64</b>	<b>372</b>	<b>57</b>	<b>11</b>	<b>4</b>	<b>2</b>	<b>27</b>	<b>2</b>	<b>719</b>



# President's Corner

by Jennifer Christian, M.D., M.P.H.

## I. - CHIPRA

The doctors and hospitals are still working together, and our joint HACC Council is an active player in health system reform politics in Juneau this year. As most of you know, we formed the Health Access and Cost Containment Council last year, in part to blunt the momentum of a couple of ill-conceived attempts to improve the health system. One of these is SB-83, proposed by Senator Jim Duncan from Juneau, which sets fee schedules on doctors and hospitals. SB-83 is still alive, but we have a proposal on the table, too, which has been widely discussed.

Our plan is to stick by CHIPRA's two most politically unpopular features: the requirement to have health care coverage in order to receive the Permanent Fund Dividend check, and medical malpractice reform. We feel it will be better for society in the long run if we are honest rather than popular. Let others be the ones who sugarcoat, dilute or delay the pill society needs to swallow. Access to health care for everyone will cost more money; defensive medicine adds up to 20 percent extra cost in unnecessary or optional visits, tests and procedures.

Others have also accused CHIPRA of being a cynical attempt to look generous while designing a system that will increase physician incomes. Nothing could be farther from the truth. Many physicians in this state have told me they are willing to reduce their incomes, IF WE CAN BE SURE that there will be less fear and less paperwork. CHIPRA will be modified to clarify our intentions to make a significant sacrifice, as we expect each other party to do — hospitals, insurers, lawyers, employers, and individual patients.

## II. MY OTHER IDEAS ON REFORM

All these health system reform proposals are giving me a headache. It is so frustrating to read about this topic — it seems both too complex and too screwed up to be fixable. And no one with a "good idea" how to fix it can show me an existing example that really works well from all vantage points. Moreover, the same people who told us how important it was that physicians be at the table while change is being planned, are now telling me that the momentum of the political process is likely to bowl us over no matter what we do or say.

On either hand, I see unattractive alternatives. Those who advocate a centralized system are really talking about nationalizing the U.S. health industry. Those who advocate the status quo would perpetuate an increasingly unfair and economically precarious system. Incremental proposals, like Bush's and even CHIPRA, sound like they'll mean more medical backseat driving, more paper and more bureaucratic complexity.

Socialized medicine looks like it will greatly improve access for all citizens and simplify the system for users. But it is also likely to have the same effect that nationalizing any other industry has: create a huge in-house bureaucracy, reduce physicians from dedicated professionals to white collar employees with a civil service mentality (unionized, with 8-hour shifts, "not on my watch", etc.), reduce innovation and inventiveness, reduce the emphasis on customer service and individualized care, institute de facto rationing because of fixed budgets, etc. etc.

A quick solution to the problem of access may create an inflexible, inefficient system without the impetus or resources for self-renewal in the future. We need to take a longer view than 20 years before we alter the relationship between healers and their patients. Individual economic self-interest and low government interference are the two critical ingredients of our traditionally vital, flexible, and efficient economy. The best (and admittedly, the worst) of America has come out of this philosophy. But, the Soviet Union has just graphically and painfully demonstrated that central control leads slowly only to disintegration.

Forcing doctors and hospitals to practice their formerly independent professions under the control of the government is a most unpalatable scenario. Try to imagine the transition: how many doctors would retire or change professions in order to avoid being subject to the government? How many doctors working 8 hours a day would it take to make up for the ones who worked 12 or 16, and who were available all night? Who would guarantee or invalidate all the existing leases, mortgages and contracts, buy all the buildings, pay staff salaries. Who would decree who practices which specialty, where and with whom? And how would the U.S. government



find the money to buy out 300,000 physicians — for certainly the courts would call this a “taking” of our practices?

On the other hand, I cannot accept the status quo. The increasing commercialization of medicine and unbridled demand for care is creating an ever more selfish system, with the rich and welfare classes getting more and more, and the working poor getting less and less. Too many doctors make more money than I feel comfortable with; too many refuse to take care of the poor and those who don't have insurance; too many select high science/low art specialties and retreat from their patients behind technology. Preventive services are underutilized; organ transplants, kidney dialysis, death-bed intensive care and other “heroic” attempted saves of people with poor prognoses take too large a share of the pie.

Most people use health care appropriately; most doctors do good medicine. A small fraction of patients are being given way more than their share of resources. Graphs of health care dollar usage make it very clear that the bulk of the problem is not most doctors and most patients. It is overusage by certain specialties under certain circumstances.

Why should the “fix” interfere with all doctors and all patients; why not focus on high cost cases and fix the system where it is broken? Rather than throw out or continue to destabilize an entire system of independent practitioners delivering appropriate and good care, I'd like to focus on three things:

- 1) increasing availability and use of preventive services to all Americans,

- 2) strengthening the market system to make sure cost is once again a reflection of negotiated value, through a combination of insurance reform and sliding participation in the cost of care; and
- 3) educating inappropriately expensive and extensive provision of health care, especially to persons with staggering problems, for whom the care is fruitless or a selfish long-shot.

Organized medicine has aggressively protected the business side of our practices for years. Physicians incomes have consistently risen faster than inflation, despite what we tell each other. The more we talk about money, the more the public thinks that's all we care about. We look less and less like professionals and more and more hypocritical as we respond with poormouthing and business talk to a political process fixated on finances.

We physicians may get aced out at the political table — we may end up with fee schedules, with salaries, without tort reform. Our voices may not be heard because the finger-pointing has started. Many have simplistically decided that we are too greedy. The momentum of public witch hunting for simple solutions may overwhelm us.

The “new AMA” has realized that professionalism is our greatest asset, and what is best for our patient's health, broadly defined, should be the basis for our response to any issue. I couldn't agree more,

(continued on page 120)

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and am much more comfortable with the AMA and organized medicine as a result.

During this time of national debate on health care, let's try to talk like professionals about the non-monetary parts of the problem — about the environment in which we make decisions for medical care, about our fear of punishment if we don't give every patient the best and the fanciest, about our distraction by medical backseat drivers and paperwork, and about our potential role in changing our own, our patients' and American society's view of suffering and death. Even if they solve the wrong problem, the real problems will still be there and new ones will be created. Physicians will have a continuing opportunity to make a contribution.

### III—PERSONAL

When I was asked not long ago what the fundamental problem in the American health care system was, I answered "third party payors." The medical provider and patient negotiate what health care gets delivered — and the bill goes to the insurer or the government. An analogy, using another necessity of life: the department store clerk and the customer agree what kind of clothing

is needed — and the bill goes somewhere else. Under these circumstances, everybody gets the most and the fanciest. This, I said, is the fundamental reason that volume and costs of services have risen so dramatically.

But I have changed my mind. The real problem behind the expense and expanse of American health care is that modern Americans are so unfamiliar with, and afraid of death. The most and the fanciest health care is required, because pain, suffering and death are not a natural part of life — they are the enemy. And yet we will all die, the only question is when and how. If we can become more comfortable with the idea that growth and beauty are hidden in suffering, and more comfortable with the inevitability of death, perhaps we can stop throwing resources in the way of death, and use them instead to help with living.

The death with dignity movement, hospice, living wills and durable powers of attorney, widespread interest in Dr. Kevorkian and assisted suicide — these are all consumer-dominated movements. There are testaments to the public's increasing conviction that health care can be too aggressive, automatic and merciless. They are telling us that people who need compassionate help while dying are being kept alive without mercy.

I personally am committed to loving and careful treatment of those with serious illness; to aggressive treatment of those with a good likelihood of return to pre-illness or injury status; and to fair distribution of resources across a huge population with varying health needs. To me, that means we should be brave enough to say "no" today to a bone marrow transplant for one woman with metastatic breast cancer, and say "yes" to mammograms for 1,000 women this year (and through early detection save 5 or 8 from death later). The woman with metastatic breast cancer needs loving treatment, relief of her pain, support for her and her family's spiritual and domestic needs, and a peaceful death. That is the treatment I would wish for my mother, my sister or myself.

What we as a country have got to do, sooner or later, is set limits on our financial commitment to the pursuit of immortality. There is no limit to what we wish, but there is a limit to our resources. Resources that could be rebuilding bridges and infrastructure, revitalizing industry, giving jobs to the poor, rehabilitating drug addicts, housing the homeless and other social goods are being increasingly diverted into health care. What we as physicians can do is tell the truth about the futility of avoiding death, and support a national process of coming to terms with limits on health care, with loving care for the dying, and throwing our energies into making life the best for the living. We can reassert the shaman or priest role that has always been part of physician hood, and help our patients face reality and find meaning in life as it is.

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(continued from page 113)

Hall and Lincoln Center on several tours. Through the Anchorage Concert Association, Jim hosted various artists as they came through Anchorage, including pianist Van Cliburn.

It would be very difficult to list all of the things Jim has been involved with during the years he has lived in Alaska. As a final note, he was founding chairman and Executive Director, Aurora Community Broadcasting, which is currently the public radio station, KSKA.

There is one thing Adolphus Cecil James Parsons is sure of: he does not want to retire.

Gwynneth Gminder Wilson  
Anchorage Medical Society Auxiliary

# Letters to the Editor

## “SAVE THE LAWYER”

Dear Editor:

The other day I heard a strange story on CNN. It seemed that, on the West Coast, especially around San Francisco, sharks are becoming an endangered species. These creatures unchanged and ferocious for millions of years are now in danger of being over fished. They have become delicacies in such creations as shark fin soup, shark steaks, etc., etc. Sharks have become trendy and acceptable. They are in danger of being depleted. New uses for these often maligned and feared creatures should be noted. This trend may cut down the numbers of sharks and reduce those remaining survivors to zoo or aquarium exhibits.

Can we predict enthusiastic do gooders starting a “save the shark” movement? How enthusiastic will they really be? Can we really work up enough tax dollars, court cases and judgmental laws to make the saving and preservation of these denizens a popular cause? Would we sacrifice an odd swimmer or two to keep them around? While pondering these questions the thought of “save the lawyer” bumper stickers and even lawyer fin soup came to mind. Obviously, this is too much to hope for.

Sincerely,

Robert E. Mallin, M.D.

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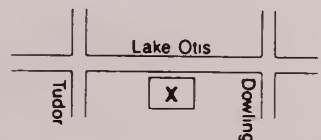
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# ALASKA MEDICINE

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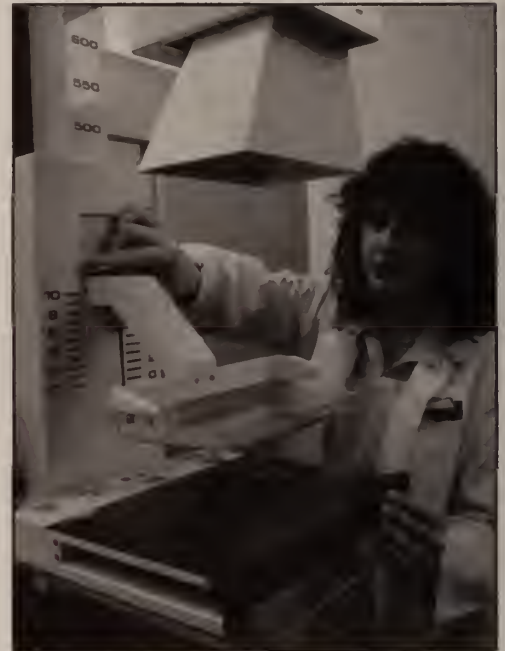
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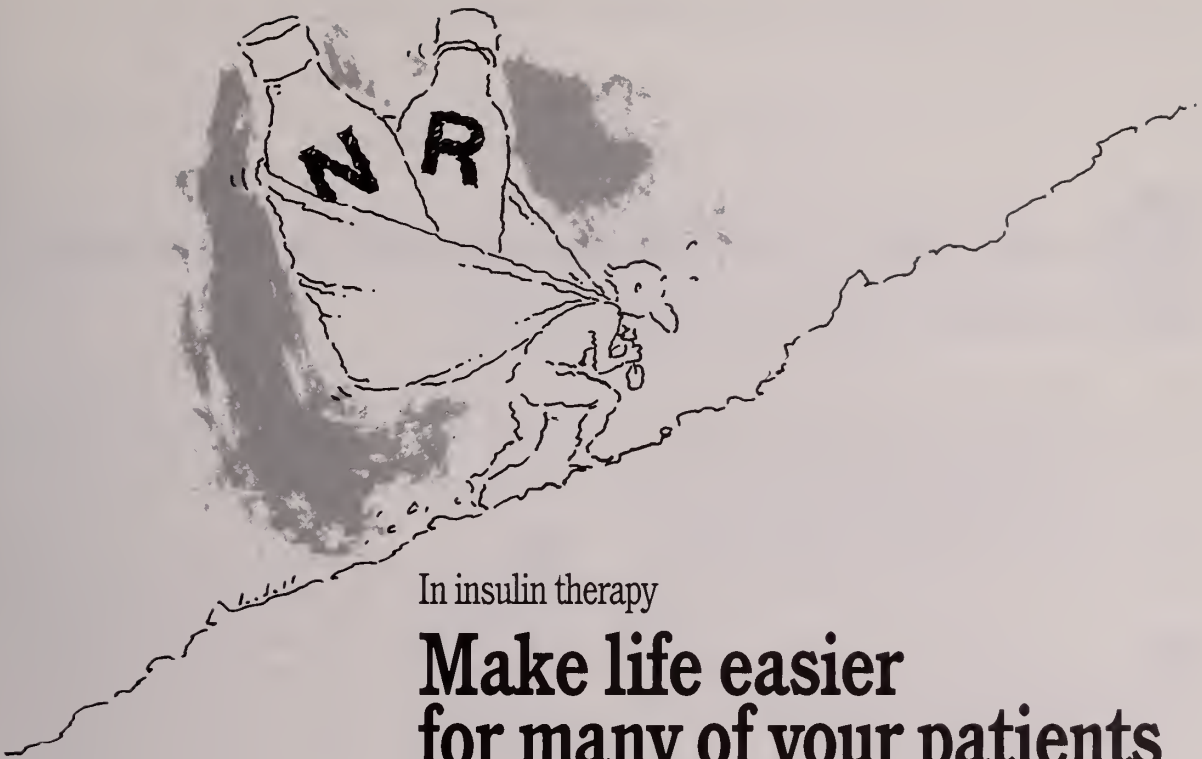
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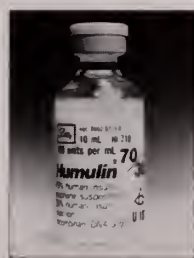




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About the cover: Berries found on Attu Island, Alaska. Photo courtesy of Lael Morgan/Alaska Magazine File Photo.



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THE COMMITMENT CONTINUES



# THE ALASKA TRAUMA REGISTRY

Steven J. Kilkenny, M.D., F.A.C.S.<sup>(1)</sup>

Martha A. Moore, M.S.<sup>(2)</sup>

Barbara L. Simonsen, R.N.<sup>(1)</sup>

Mark S. Johnson, M.P.A.<sup>(2)</sup>

## ABSTRACT

Recognizing that injury is the leading cause of death and disability for virtually all age groups in Alaska, a trauma task force was developed in the Anchorage area in the early 1980s. This task force established the trauma registry pilot project in the state of Alaska. The Emergency medical Services Section, Department of Health and Social Services provided the funding to the Southern Region Emergency Medical Services Council, Inc. and the Alaska Chapter of the American College of Surgeons Committee on Trauma to develop this pilot project. The funding originated from a federal grant from the National Highway Traffic Safety Administration.

Seven hospitals participated in the pilot project which lasted approximately two and one half years. There were 5,087 entries into the registry with information on 4,860 patients. The rationale, methodology, and development of the registry, as well as some of the data accumulated, is presented. The potential usefulness of the registry as a quality improvement tool and as an extensive data base for injury prevention and trauma care research also is discussed.

## INTRODUCTION

### PROBLEM

Intentional and unintentional injuries combined are the leading causes of death and disability among most age groups in Alaska. In fact, death rates from firearms, falls, drownings, and unintentional poisonings rank Alaska in the 90th percentile nationally. Fire and burn death rates, as well as homicide and suicide rates, place Alaska in the 75th percentile (1). Alaska's occupational fatalities are four times the national average and the highest rate in the country (2). All-terrain vehicle crashes, automobile crashes, airplane crashes, and domestic violence remain serious problems for the Alaska population as well.

(1) 3300 Providence Drive, Suite 311, Anchorage, Alaska 99508.

(2) Emergency Medical Services, Department of Health and Social Services, P.O. Box 110616, Juneau, Alaska 99811-0616.

Injuries are the leading cause of childhood death in Alaska (3). Alaska also has the highest injury death rate among children to age 14 of any state in the country. The injury death rate in the pediatric population, at 33.9 per 100,000, is 1.8 times the national average (19.3 per 100,000) (Table 1). Death rates due to pedestrian-traffic, bicycle crashes, suffocation, fire, and drowning are among the highest in the country (3).

**Table 1.**  
**INJURY DEATH RATES BY CAUSE**  
**ALASKA CHILDREN AGES 0-14, 1980-1985**

Injury Cause	Alaska Total	Alaska Rate 1980-1985 Deaths/100,000/yr	US Rate 1980-1985 Deaths/100,000/yr
Drowning	52	6.9	2.8
House Fire	38	5.1	2.3
Homicide	23	3.1	1.9
Other Unintentional	23	3.1	0.2
Pedestrian, Traffic	22	2.9	2.4
Airplane Crash	16	2.1	0.1
Motor Vehicle Occupant	15	2.0	3.2
Firearm, Unintentional	14	1.9	0.6
Other Motor Vehicle	13	1.7	1.2
Suffocation	11	1.5	0.7
Suicide	6	0.8	0.4
Aspiration	4	0.5	0.4
Bicycle	3	0.4	0.7
Pedestrian, Non-Traffic	3	0.4	0.4
Unknown Intent	3	0.4	0.4
Motorcycle	2	0.3	0.2
Poison, Solid/Liquid	2	0.3	0.2
Electric Current	2	0.3	0.1
Poison, Vapor	1	0.1	0.2
Medical/Surgical	1	0.1	0.1
All Injury	254	33.9	19.3

## TRAUMA CARE SYSTEMS

It is clear from this data that injury is a major public health problem in our state. Although many other public

health problems receive greater funding and attention by the state and federal governments, there is no question that intentional and unintentional injury is a significant threat to the future health of our population.

There is a growing consensus that development of active and viable trauma systems saves lives. A San Diego study showed that the trauma death rate fell by 55 percent after the implementation of a trauma care system (4). In Washington, D.C., a 50 percent reduction in trauma deaths over five years has been credited to the development of a trauma care system (4).

A trauma system, as defined by the American College of Surgeons Committee on Trauma, includes the following:

1. Access, which involves communications equipment including emergency telephone system, 911 emergency access numbers, and radio frequencies, as well as a strong public education program, all of which ensure access to care;
2. Pre-hospital care, which involves triage, treatment, and transport of the injured patient by trained and equipped emergency medical personnel based on community resources and plans established in local areas;
3. Hospital care, which includes primary and secondary hospitals, as well as those specialized trauma facilities which are staffed by experienced surgeons and other health care personnel; and
4. Rehabilitation, which is vital to minimize patient disability and the tremendous costs burdening our society.

Emergency Medical Service (EMS) providers in the State of Alaska have long been aware that traumatic injury is a major problem and have worked toward developing a trauma system with a very strong prehospital care component. There is evidence that the death rate from injury has decreased in the past 10 to 15 years due, at least in part, to a strong EMS system. Vital Statistics data shows a 39 percent decline in the unintentional injury death rate between 1980 (108.75/100,000) and 1989 (65.87/100,000) (5).

In an attempt to improve care at the local hospital level, the Alaska Chapter of the American College of Surgeons Committee on Trauma (ACSCOT) also has sponsored the Advanced Trauma Life Support (ATLS) course in Alaska for ten years. Some of these courses have been conducted with partial funding support from the State Emergency Medical Services program. As the majority of hospitals in Alaska have no surgical capabilities, it is essential that medical personnel be trained in the early stabilization, management, and transport of the critically injured. The American College of Surgeons also recommends that surgeons who treat patients be ATLS providers or instructors (6).

In order to help evaluate our efforts in the prehospital arena and in hospital care, the development of a trauma registry was initiated. A trauma registry is the accumulation of data describing the patient's injury, cause of injury, injury severity, treatment, and outcome. Trauma registries are essential tools in the quality improvement process and also in the tracking of epidemiologic and demographic characteristics of the patient population studied. The registry is also of value in future planning for the development and utilization of prehospital and hospital EMS resources, as well as a very powerful research tool for health care providers and those who plan the future of emergency medical service systems. Currently, several states are in the process of forming trauma registries as a solid foundation to future planning and evaluation for trauma systems development.

The American College of Surgeons Committee on Trauma has taken several important steps in an attempt to standardize and evaluate trauma care. As a result of the Major Trauma Outcome Study coordinated by ACSCOT from 1982 through 1987, demographics, injury etiology, injury severity, treatment, and outcome data for over 120,000 trauma patients were accumulated (7). National normative outcomes were established which can be used by trauma care providers and researchers for quality assurance comparisons. Also, ACSCOT is presently developing a trauma data collection system that will assist hospitals as well as act as a national clearinghouse for all trauma registries. A national trauma registry also will help standardize data necessary for quality of care assessment of trauma systems. The public has the right to expect access to a similar level of trauma care no matter where a person may be injured.

Due to the large geographic area and prolonged transport distances in Alaska, early planners of the Alaska Trauma Registry saw this region of the country as unique and, therefore, decided that the trauma registry must be tailored with Alaska-specific elements. The development of the trauma registry pilot project in 1987 was guided by a steering committee of emergency medical services providers and planners. This body has evolved into the Trauma Registry Review Committee, which continues to guide trauma registry activities and functions as a "review organization" under Alaska statute (AS 18.23.010-070) which includes protection of data confidentiality.

## **TRAUMA REGISTRY PILOT PROJECT**

The original trauma registry pilot project included data from the Alaska Native Medical Center, Providence Hospital, and Humana Hospital-Alaska, all in Anchorage; Valley Hospital in Palmer; Central Peninsula General Hospital in Soldotna; South Peninsula Hospital in Homer; and Kakanak Hospital in Dillingham. Data



collection began in March, 1988, with a trauma registry software package borrowed from, and coordinated with, Richard Cales, M.D., FACEP, who was Chairman of the Trauma Committee of the American College of Emergency Physicians. The information was collected from medical records by medical records technicians or emergency nurses of participating hospitals through chart audit, and recorded on data sheets developed by the review committee. This data was in turn sent to the Southern Region EMS Council, Inc. in Anchorage where it was entered into a computer.

Criteria for entry into the trauma registry includes the following: all admissions to a hospital as a direct result of intentional or unintentional traumatic injury; all people dead on arrival due to traumatic injury; all hospital deaths due to traumatic injury; and all trauma patients that are transferred to another hospital. Patients treated in the emergency department and released are not included.

## **ALASKA TRAUMA REGISTRY: CURRENT STATUS**

In April of 1990, the trauma registry system was transferred to the Emergency Medical Services Section of the Division of Public Health in Juneau. Since that time, the registry has expanded to a statewide system which now includes all of Alaska's 25 acute care hospitals. The Alaska trauma Registry has become an injury surveillance component of the statewide Injury Prevention and Control Program and now receives major funding from the U.S. Public Health Service, Centers for Disease Control in Atlanta, Georgia.

Data from hospitals throughout Alaska, as well as data from Seattle's Harborview Trauma Center Registry on transported Alaska patients, and vital statistics data on prehospital trauma deaths, is now entered into the registry, making the database a near-complete injury surveillance system for traumatic injuries severe enough to result in hospitalization or death.

Trauma registry data complements other data sources to enable in-depth study of serious injury in Alaska. Its capabilities in focusing on the circumstances of injury, high risk groups, the impact of alcohol and other drug abuse, the use of safety equipment, and the costs of injury make it a valuable data source. Specific strategies for injury prevention technology, public education, and legislation can be targeted as well as evaluation of their effectiveness.

## **TRAUMA REGISTRY REPORTS**

The Trauma Registry Review Committee provides quarterly reports for all participating hospitals. These quarterly reports consist of 1) a patient log, 2) a trauma service summary, 3) a quality assurance summary, and 4)

a survival probability summary.

The patient log is a listing of all patients entered into the registry for each hospital by trauma registry number and medical record number. The trauma service summary is a basic summary of the data surrounding the injury including etiology, place of occurrence, transport and admission data, procedures, length of stay, hospital charge and outcome. Samples of this data are presented.

The third report is a quality assurance item which contains multiple audit filters. The purpose of these audit filters, or clinical indicators, is to identify potential problems regarding the timeliness, appropriateness, and consequences of care. A number of these audit filters have been suggested by the American College of Surgeons Committee on Trauma and are listed in Appendix A.

The fourth report generated is the survival probability summary, which utilizes the TRISS method - Trauma Score and Injury Severity Score - for comparing patient outcomes (8). Patient survival and functional outcome are important determinants of care. The probabilities of survival are computed for each patient entered into the trauma registry based on a regressive equation that takes into account the following: 1) patient age, 2) severity of anatomical injury as measured by the Injury Severity Score, 3) the physiological status of the patient on admission based on the revised trauma score, and 4) the type of injury - blunt or penetrating. The TRISS scale outcome norms have been calculated from the large sample of patients in the Major Trauma Outcome Study and are standardized for most types of injuries. An exception is patients with multiple severe injuries for whom the outcome prediction method is still in evolution. The survival probability summary examines all patients who expire, to determine whether the outcome is expected or unexpected. If the calculated probability of survival indicates that a patient should have survived but did not, this is considered a potentially unexpected death. Unexpected survivors are considered therapeutic triumphs.

The trauma registry itself makes no judgment or attempt to assess the quality of care. Rather, the audit filters flag cases for further review by hospital medical staffs to evaluate the appropriateness of care. In this way the trauma registry remains purely a tool for the accumulation of data and information, which can be used for research, quality improvement, and most importantly, the fine tuning of Alaska's trauma system.

The data being reported and the frequency of reporting is still in evolution, and participating hospitals have been encouraged to help in determining the need for customized reports and changes in reporting patterns. The goal is to streamline the process to provide useful, sophisticated, and timely reports. Other data in the system is available to epidemiologists and others who may

want special studies on specific categories of injured populations, such as commercial fishers, loggers, children, etc.

## LIMITATIONS

It is important to note that there are several limitations to the pilot project, reflected in the data presented here. Only trauma patients admitted to Southcentral Alaska hospitals were included in this phase of the project. This is estimated to be at least 60 percent of statewide hospital trauma admissions. Most hospitalized injuries that occurred in the Interior and Southeast regions were not captured in the preliminary study, and the three smallest hospitals in the study temporarily discontinued data collection after 1988.

Certain injury etiologies are understated because of limitations in trauma case criteria. Hospital admissions due to poisonings (including carbon monoxide), hypothermia, and smoke inhalation were not collected, which caused the suicide, drowning, and fire statistics to be understated. Hypothermia has subsequently been added to trauma registry criteria; however, data on poisonings and smoke inhalation is still omitted primarily because collecting data on these types of injuries would require different data sets.

It is also important to note that prehospital deaths were not entered into the database for the pilot project phase. Consequently many deaths due to drowning, homicide, suicide, and airplane crashes are missing from these totals.

## RESULTS

The Trauma Patient Profile (Table 2) indicates that there were a total of 4,860 patients entered into the trauma registry pilot project during the study period from March 1, 1988 through June 30, 1990. Of these, 958 (20 percent) were Native, 3,579 (74 percent) were non-Native, and for 6 percent of the patients, the race was not recorded. Males outnumbered females 2 to 1. The majority of these patients were injured in the Anchorage and Matanuska-Susitna areas, accounting for 60 percent of the trauma population studied, and 36 percent were injured outside of this area and transferred into an Anchorage hospital. The remaining 4 percent were injured outside of the Anchorage and Matanuska-Susitna areas and treated at their local hospital only.

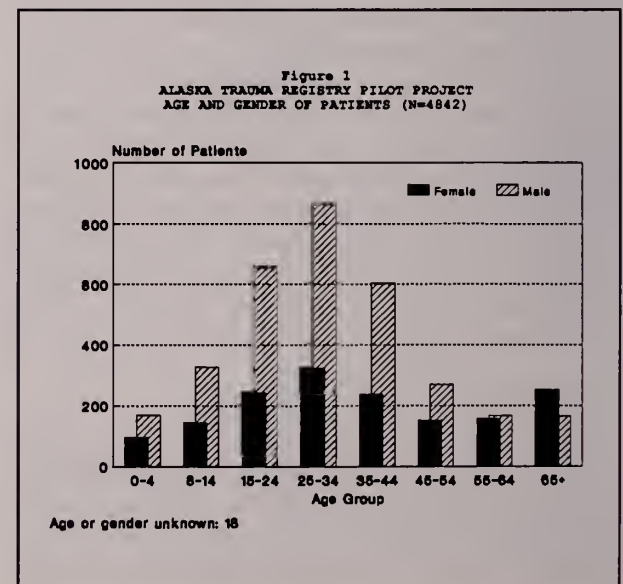
There were 5,087 trauma register entries, due to multiple entries for patients seen at more than one hospital for one incident. A breakdown of entries by hospital indicates that Providence Hospital led with 2,164 trauma registry entries; Humana Hospital Alaska had 1,338 entries; Alaska Native Medical Center had 846 entries; Valley hospital in Palmer had 454 entries;

**TABLE 2**  
**ALASKA TRAUMA REGISTRY PILOT PROJECT**  
**TRAUMA PATIENT PROFILE**

Number	Percent	
4,860	100%	Total patients
959	20%	Natives
3,579	74%	Non-Natives
323	6%	Unknown
3,229	66%	Males
1,613	33%	Females
18	1%	Unknown
373	8%	Out-of-state residents
2,312	48%	Injured in Anchorage area
579	12%	Injured in Matanuska-Susitna Area
1,763	36%	Injured outside of Anchorage/ Matanuska-Susitna area and transferred to Anchorage hospital
206	4%	Injured outside of Anchorage/ Matanuska-Susitna area and treated at a local hospital only

Central Peninsula General hospital in Soldotna provided information on 165 cases; South Peninsula Hospital in Homer contributed 51 cases; and, Kakanak Hospital in Dillingham yielded 14 entries. Information also was provided for 55 patients seen at other Alaska hospitals who were transferred into Anchorage for treatment.

The data demonstrates that males between the ages of 15 and 44 were most prone to injury, and only in the 65 and older age group do females surpass males in incidence of injury (Figure 1).





# The ACCUPRIL Single-Agent Commitment™

Parke-Davis is confident that for many of your hypertensive patients ACCUPRIL will achieve the decrease in blood pressure you expect.

If, in your medical judgment, your patient requires a diuretic in addition to ACCUPRIL at any time during ACCUPRIL therapy, Parke-Davis will refund your patient's cost of the diuretic.\*†



ONCE-A-DAY ‡  
**ACCUPRIL®** ™  
quinapril HCl tablets 10, 20, 40 mg

\* See DOSAGE AND ADMINISTRATION section of prescribing information.

† If, after an adequate trial of ACCUPRIL alone, based on your medical judgment as the prescribing physician, you determine that your patient requires the addition of a diuretic, Parke-Davis will refund to the patient his/her cost for the diuretic prescription less any amount reimbursed or paid for by an HMO, insurance company, or any other plan or program.

For more details, ask your Parke-Davis Representative or call 1-800-955-3077.

‡ In some patients, the antihypertensive effect may diminish toward the end of the once-daily dosing interval. In such patients, an increase in dosage or twice-daily administration may be warranted.

ACCUPRIL is available in 10, 20, and 40 mg tablets. Usual initial starting dosage is 10 mg once daily.

ACCUPRIL is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Please see brief summary of prescribing information on following page.



## Accupril® (Quinapril Hydrochloride Tablets)

### USE IN PREGNANCY

When used in pregnancy during the second and third trimesters, ACE inhibitors can cause injury and even death to the developing fetus. When pregnancy is detected, ACCUPRIL should be discontinued as soon as possible. See WARNINGS, Fetal/Neonatal Morbidity and Mortality.

Before prescribing, please see full prescribing information. A brief summary follows.

### INDICATIONS AND USAGE

ACCUPRIL is indicated for the treatment of hypertension. It may be used alone or in combination with thiazide diuretics. In using ACCUPRIL, consideration should be given to the fact that another angiotensin-converting enzyme (ACE) inhibitor, captopril, has caused agranulocytosis, particularly in patients with renal impairment or collagen vascular disease. Available data are insufficient to show that ACCUPRIL does not have a similar risk (see WARNINGS).

### CONTRAINDICATIONS

ACCUPRIL is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

### WARNINGS

**Angioedema:** Angioedema of the face, extremities, lips, tongue, glottis, and larynx has been reported in patients treated with ACE inhibitors and has been seen in 0.1% of patients receiving ACCUPRIL. Angioedema associated with laryngeal edema can be fatal. If laryngeal stridor or angioedema of the face, tongue, or glottis occurs, treatment with ACCUPRIL should be discontinued immediately, the patient treated in accordance with accepted medical care, and carefully observed until the swelling disappears. In instances where swelling is confined to the face and lips, the condition generally resolves without treatment, antihistamines may be useful in relieving symptoms. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, emergency therapy including, but not limited to, subcutaneous epinephrine solution 1:1000 (0.3 to 0.5 mL) should be promptly administered (see ADVERSE REACTIONS).**

**Hypotension:** Symptomatic hypotension was rarely seen in uncomplicated hypertensive patients treated with ACCUPRIL but, as with other ACE inhibitors, it is a possible consequence of therapy in salt/volume depleted patients, such as those previously treated with diuretics or dietary salt restriction or who are on dialysis (see PRECAUTIONS, DRUG INTERACTIONS, and ADVERSE REACTIONS). In controlled studies, syncope was observed in 0.4% of patients (N = 3203); this incidence was similar to that observed for captopril (1%) and enalapril (0.8%).

In patients with concomitant congestive heart failure, with or without associated renal insufficiency, ACE inhibitor therapy may cause excessive hypotension, which may be associated with oliguria or azotemia and, rarely, with acute renal failure and death. In such patients, ACCUPRIL therapy should be started at the recommended dose under close medical supervision. These patients should be followed closely for the first 2 weeks of treatment and whenever the dosage of antihypertensive medication is increased (see DOSAGE AND ADMINISTRATION).

If symptomatic hypotension occurs, the patient should be placed in the supine position and, if necessary, normal saline may be administered intravenously. A transient hypotensive response is not a contraindication to further doses; however, lower doses of ACCUPRIL or reduced concomitant diuretic therapy should be considered.

**Neutropenia/Agranulocytosis:** Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression rarely in patients with uncomplicated hypertension, but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease such as systemic lupus erythematosus or scleroderma. Agranulocytosis did occur during ACCUPRIL treatment in one patient with a history of neutropenia during previous captopril therapy. Available data from clinical trials of ACCUPRIL are insufficient to show that, in patients without prior reactions to other ACE inhibitors, ACCUPRIL does not cause agranulocytosis at similar rates. As with other ACE inhibitors, periodic monitoring of white blood cell counts in patients with collagen vascular disease and/or renal disease should be considered.

**Fetal/Neonatal Morbidity and Mortality:** ACE inhibitors can cause fetal and neonatal morbidity and death when administered to pregnant women. Several dozen cases have been reported in the world literature. When pregnancy is detected, ACE inhibitors should be discontinued as soon as possible.

The use of ACE inhibitors during the second and third trimesters of pregnancy has been associated with fetal and neonatal injury, including hypotension, neonatal skull hypoplasia, anuria, reversible or irreversible renal failure, and death. Oligohydramnios has also been reported, presumably resulting from decreased fetal renal function; oligohydramnios in this setting has been associated with fetal limb contractures, craniofacial deformation, and hypoplastic lung development. Prematurity, intrauterine growth retardation, and patent ductus arteriosus have also been reported, although it is not clear whether these occurrences were due to the ACE inhibitor exposure.

These adverse effects do not appear to have resulted from intrauterine ACE inhibitor exposure that has been limited to the first trimester. Mothers whose embryos and fetuses are exposed to ACE inhibitors only during the first trimester should be so informed. Nonetheless, when patients become pregnant, physicians should make every effort to discontinue the use of ACCUPRIL as soon as possible.

Rarely (probably less often than once in every thousand pregnancies), no alternative to ACE inhibitors will be found. In these rare cases, the mothers should be apprised of the potential hazards to their fetuses, and serial ultrasound examinations should be performed to assess the intraamniotic environment.

If oligohydramnios is observed, ACCUPRIL should be discontinued unless it is considered life-saving for the mother. Contraction stress testing (CST), a non-stress test (NST), or biophysical profiling (BPP) may be appropriate, depending upon the week of pregnancy. Patients and physicians should be aware, however, that oligohydramnios may not appear until after the fetus has sustained irreversible injury.

Infants with histories of *in utero* exposure to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion. Exchange transfusion or dialysis may be required as a means of reversing hypotension and/or substituting for disordered renal function. Removal of ACCUPRIL, which crosses the placenta, from the neonatal circulation is not significantly accelerated by these means. No teratogenic effects of ACCUPRIL were seen in studies of pregnant rats and rabbits. On a mg/kg basis, the doses used were up to 180 times (in rats) and one time (in rabbits) the maximum recommended human dose.

### PRECAUTIONS

#### General

**Impaired renal function:** As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including ACCUPRIL, may be associated with oliguria and/or progressive azotemia and rarely acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine have been observed in some patients following ACE inhibitor therapy. These increases were almost always reversible upon discontinuation of the ACE inhibitor and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some hypertensive patients with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when ACCUPRIL has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of any diuretic and/or ACCUPRIL may be required.

**Evaluation of hypertensive patients should always include assessment of renal function (see DOSAGE AND ADMINISTRATION).**

**Hyperkalemia and potassium-sparing diuretics:** In clinical trials, hyperkalemia (serum potassium  $\geq 5.8$  mmol/L) occurred in approximately 2% of patients receiving ACCUPRIL. In most cases, elevated serum potassium levels were isolated values which resolved despite continued therapy. Less than 0.1% of patients discontinued therapy due to hyperkalemia. Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with ACCUPRIL (see PRECAUTIONS, Drug Interactions).

**Cough:** Cough has been reported with the use of ACE inhibitors. Characteristically, the cough is nonproductive, persistent, and resolves after discontinuation of therapy. ACE inhibitor-induced cough should be considered as part of the differential diagnosis of cough.

**Surgery/anesthesia:** In patients undergoing major surgery or during anesthesia with agents that produce hypotension, ACCUPRIL will block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

#### Information for Patients

**Pregnancy:** Female patients of childbearing age should be told about the consequences of second- and third-trimester exposure to ACE inhibitors, and they should also be told that these consequences do not appear to have resulted from intrauterine ACE-inhibitor exposure that has been limited to the first trimester. These patients should be asked to report pregnancies to their physicians as soon as possible.

**Angioedema:** Angioedema, including laryngeal edema, can occur with treatment with ACE inhibitors, especially following the first dose. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to stop taking the drug until they have consulted with their physician (see WARNINGS).

**Symptomatic hypotension:** Patients should be cautioned that lightheadedness can occur, especially during the first few days of ACCUPRIL therapy, and that it should be reported to a physician. If actual syncope occurs, patients should be told to not take the drug until they have consulted with their physician (see WARNINGS).

All patients should be cautioned that inadequate fluid intake or excessive perspiration, diarrhea, or vomiting can lead to an

## Accupril® (Quinapril Hydrochloride Tablets)

excessive fall in blood pressure because of reduction in fluid volume, with the same consequences of lightheadedness and possible syncope.

Patients planning to undergo any surgery and/or anesthesia should be told to inform their physician that they are taking an ACE inhibitor.

**Hyperkalemia:** Patients should be told not to use potassium supplements or salt substitutes containing potassium without consulting their physician (see PRECAUTIONS).

**Neutropenia:** Patients should be told to report promptly any indication of infection (eg, sore throat, fever) which could be a sign of neutropenia.

**NOTE:** As with many other drugs, certain advice to patients being treated with ACCUPRIL is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

### Drug Interactions

**Concomitant diuretic therapy:** As with other ACE inhibitors, patients on diuretics, especially those on recently instituted diuretic therapy, may occasionally experience an excessive reduction of blood pressure after initiation of therapy with ACCUPRIL. The possibility of hypotensive effects with ACCUPRIL may be minimized by either discontinuing the diuretic or cautiously increasing salt intake prior to initiation of treatment with ACCUPRIL. If it is not possible to discontinue the diuretic, the starting dose of quinapril should be reduced (see DOSAGE AND ADMINISTRATION).

**Agents increasing serum potassium:** Quinapril can attenuate potassium loss caused by thiazide diuretics and increase serum potassium when used alone. If concomitant therapy of ACCUPRIL with potassium-sparing diuretics (eg, spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes is indicated, they should be used with caution along with appropriate monitoring of serum potassium (see PRECAUTIONS).

**Tetracycline and other drugs that interact with magnesium:** Simultaneous administration of tetracycline with ACCUPRIL reduced the absorption of tetracycline by approximately 28% to 37%, possibly due to the high magnesium content in ACCUPRIL tablets. This interaction should be considered if coprescribing ACCUPRIL and tetracycline or other drugs that interact with magnesium.

**Lithium:** Increased serum lithium levels and symptoms of lithium toxicity have been reported in patients receiving concomitant lithium and ACE inhibitor therapy. These drugs should be co-administered with caution, and frequent monitoring of serum lithium levels is recommended. If a diuretic is also used, it may increase the risk of lithium toxicity.

**Other agents:** Drug interaction studies of ACCUPRIL with other agents showed:

- Multiple dose therapy with propranolol or cimetidine has no effect on the pharmacokinetics of single doses of ACCUPRIL.
- The anticoagulant effect of a single dose of warfarin (measured by prothrombin time) was not significantly changed by quinapril coadministration twice-daily.
- ACCUPRIL treatment did not affect the pharmacokinetics of digoxin.
- No pharmacokinetic interaction was observed when single doses of ACCUPRIL and hydrochlorothiazide were administered concomitantly.

### Carcinogenesis, Mutagenesis, Impairment of Fertility

Quinapril hydrochloride was not carcinogenic in mice or rats when given in doses up to 75 or 100 mg/kg/day (50 to 60 times the maximum human daily dose, respectively, on a mg/kg basis and 3.8 to 10 times the maximum human daily dose when based on a mg/m<sup>2</sup> basis) for 104 weeks. Female rats given the highest dose level had an increased incidence of mesenteric lymph node hemangiomas and skin/subcutaneous lipomas. Neither quinapril nor quinaprilate were mutagenic in the Ames bacterial assay with or without metabolic activation. Quinapril was also negative in the following genetic toxicology studies: *in vitro* mammalian cell point mutation, sister chromatid exchange in cultured mammalian cells, micronucleus test with mice, *in vitro* chromosome aberration with V79 cultured lung cells, and in an *in vivo* cytogenetic study with rat bone marrow. There were no adverse effects on fertility or reproduction in rats at doses up to 100 mg/kg/day (60 and 10 times the maximum daily human dose when based on mg/kg and mg/m<sup>2</sup>, respectively).

**Pregnancy**  
**Pregnancy Categories C (first trimester) and D (second and third trimesters):** See WARNINGS, Fetal/Neonatal Morbidity and Mortality

#### Nursing Mothers

It is not known if quinapril or its metabolites are secreted in human milk. Quinapril is secreted to a limited extent, however, in milk of lactating rats (5% or less of the plasma drug concentration was found in rat milk). Because many drugs are secreted in human milk, caution should be exercised when ACCUPRIL is given to a nursing mother.

#### Geriatric Use

Elderly patients exhibited increased area under the plasma concentration time curve (AUC) and peak levels for quinapril compared to values observed in younger patients; this appeared to relate to decreased renal function rather than to age itself. In controlled and uncontrolled studies of ACCUPRIL, where 218 (21%) patients were 65 years and older, no overall differences in effectiveness or safety were observed between older and younger patients. However, greater sensitivity of some older individual patients cannot be ruled out.

#### Pediatric Use

The safety and effectiveness of ACCUPRIL in children have not been established.

#### ADVERSE REACTIONS

ACCUPRIL has been evaluated for safety in 4860 subjects and patients. Of these, 3203 patients, including 655 elderly patients, participated in controlled clinical trials. ACCUPRIL has been evaluated for long-term safety in over 1400 patients treated for 1 year or more.

Adverse experiences were usually mild and transient.

Discontinuation of therapy because of adverse events was required in 4.7% of patients treated with ACCUPRIL in placebo-controlled hypertension trials.

Adverse experiences probably or possibly related to therapy or of unknown relationship to therapy occurring in 1% or more of the 1563 patients in placebo-controlled hypertension trials who were treated with ACCUPRIL are shown below.

Adverse Events in Placebo-Controlled Trials

	ACCUPRIL (N = 1563) Incidence (Discontinuation)	Placebo (N = 579) Incidence (Discontinuation)
Headache	5.6 (0.7)	10.9 (0.7)
Dizziness	3.9 (0.8)	2.6 (0.2)
Fatigue	2.6 (0.3)	1.0
Coughing	2.0 (0.5)	0.0
Nausea/Vomiting	1.4 (0.3)	1.9 (0.2)
Abdominal Pain	1.0 (0.2)	0.7

#### See PRECAUTIONS, Cough.

Clinical adverse experiences probably or possibly related, or of uncertain relationship to therapy, occurring in 0.5% to 1.0% (except as noted) of the patients treated with ACCUPRIL (with or without concomitant diuretic) in controlled or uncontrolled trials (N = 4397) and less frequent, clinically significant events seen in clinical trials or post-marketing experience (the rarer events are in italics) include (listed by body system):

**General:** back pain, malaise

**Cardiovascular:** palpitation, vasodilation, tachycardia, *heart failure, hyperkalemia, myocardial infarction, cerebrovascular accident, hypertensive crisis, angina pectoris, orthostatic hypotension, cardiac rhythm disturbances*

**Gastrointestinal:** dry mouth or throat, constipation, *gastrointestinal hemorrhage, pancreatitis, abnormal liver function tests*

**Nervous/Psychiatric:** somnolence, vertigo, syncope, *neurosis, depression*

**Integumentary:** increased sweating, pruritus, *exfoliative dermatitis, photosensitivity reaction*

**Urogenital:** acute renal failure

**Other:** amblyopia, pharyngitis, sinusitis, bronchitis, *agranulocytosis, thrombocytopenia*

#### Fetal/Neonatal Morbidity and Mortality

See WARNINGS, Fetal/Neonatal Morbidity and Mortality.

**Angioedema:** angioedema has been reported in patients receiving ACCUPRIL (0.1%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with ACCUPRIL should be discontinued and appropriate therapy instituted immediately (see WARNINGS).

#### Clinical Laboratory Test Findings

**Hematology:** (See WARNINGS)

**Hyperkalemia:** (See PRECAUTIONS)

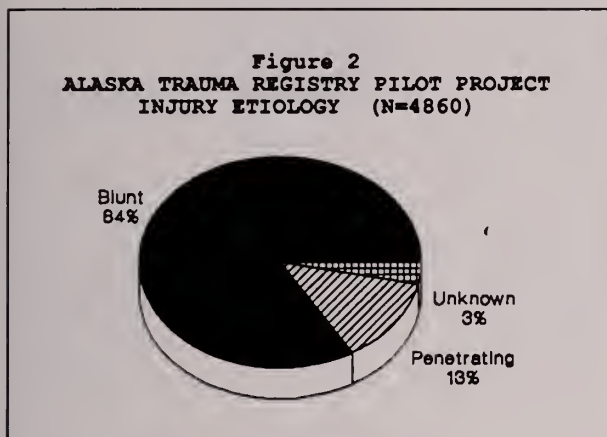
**Creatinine and blood urea nitrogen:** Increases (71.25 times the upper limit of normal) in serum creatinine and blood urea nitrogen were observed in 2% and 2%, respectively, of patients treated with ACCUPRIL alone. Increases are more likely to occur in patients receiving concomitant diuretic therapy than in those on ACCUPRIL alone. These increases often remit on continued therapy.

\*In some patients, the antihypertensive effect may diminish toward the end of the once-daily dosing interval. In such patients, an increase in dosage or twice-daily administration may be warranted.

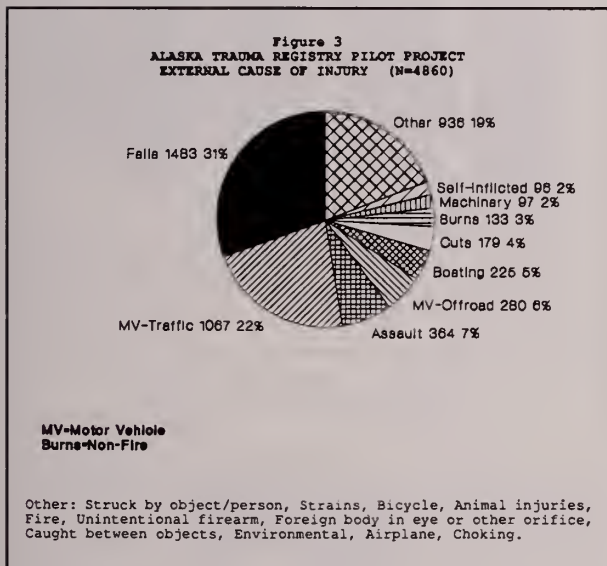
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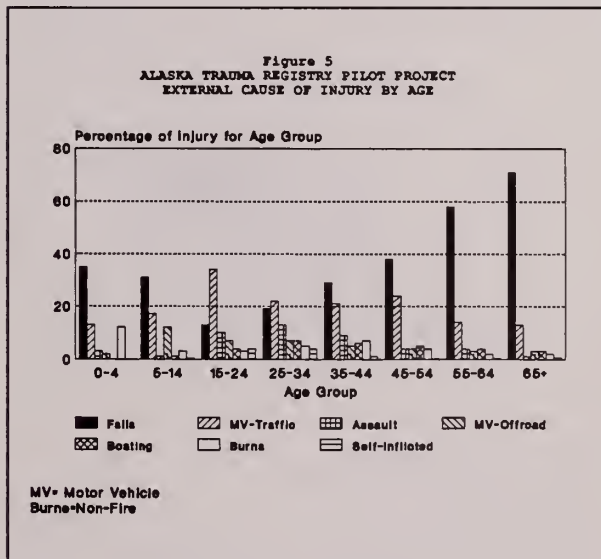
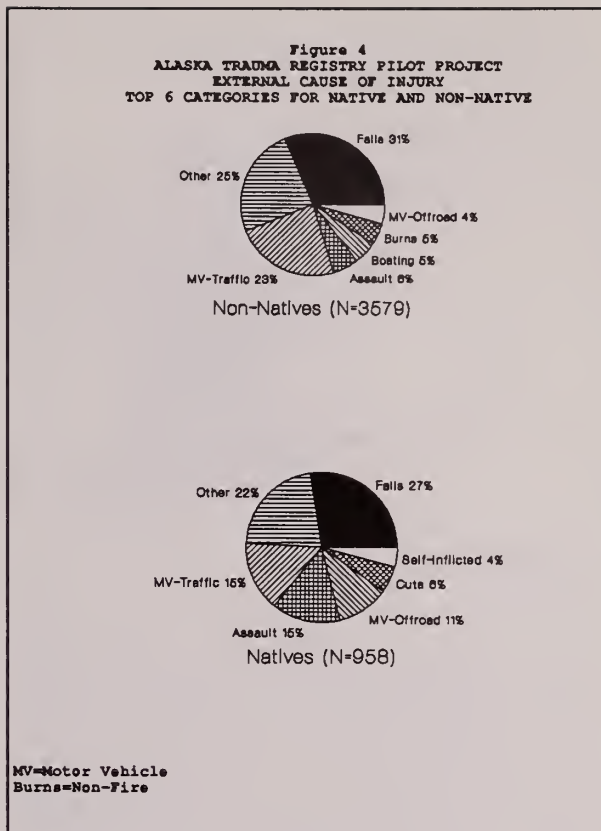
Of the 4,860 patients entered into the study, 84 percent suffered blunt injury, 13 percent suffered penetrating injury, and for 3 percent, injury etiology was undetermined (Figure 2).



The most frequent cause of injury was falls, followed by motor vehicle traffic crashes (Figure 3). Among Alaska Natives, assault, off-road motor vehicle crashes, cuts, and intentional self-inflicted injuries occurred at much higher rates than in the non-Native group (Figure 4).



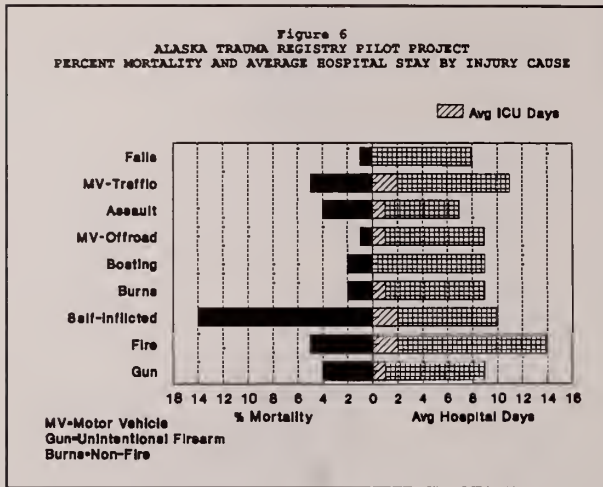
It is interesting to note that in the 35 and older age groups there is a greater percentage of injury from falls (Figure 5). Percentage of injuries from motor vehicle crashes peaks in the 15 through 24 year age group, remains high through age 54, then decreases with age. Falls were also the greatest cause of injury in the pediatric population, age 0-14, and burns were a common problem among children under age 5. Off-road motor vehicle crashes were highest among 5 to 14 years old, then decreased with age. Intentional injury becomes prevalent



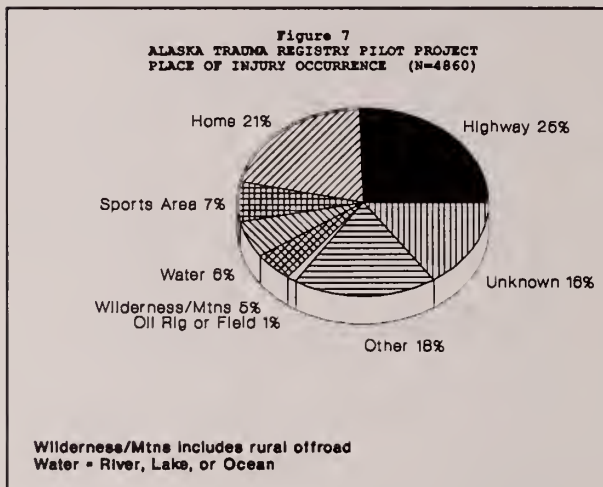
after age fifteen and starts to decline after age 35.

The mechanisms of injuries were looked at in relation to the highest percentage of mortalities and the average lengths of hospital stay, including intensive care unit (ICU) stays (Figure 6). Clearly, intentional self-inflicted injuries carry the greatest percentage mortality at 14%, followed by motor vehicle crashes, fires, then assaults and unintentional gunshot wounds. Injury due to fire resulted in the longest average hospital stay of 14 days per patient, with motor vehicle traffic crashes coming in

second at 11 days per patient. Motor vehicle crashes, intentional self-inflicted injuries, and fires all resulted in average ICU stays of 2 days per patient.

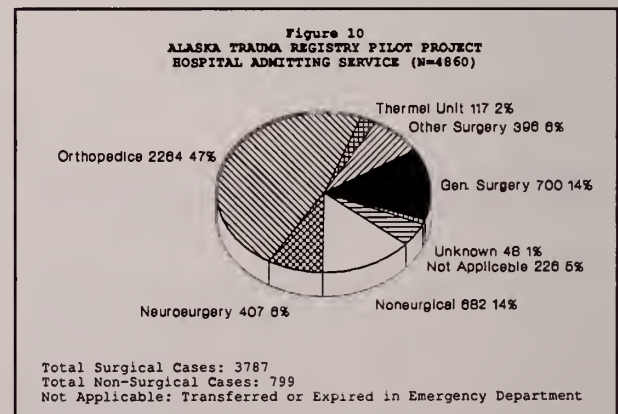
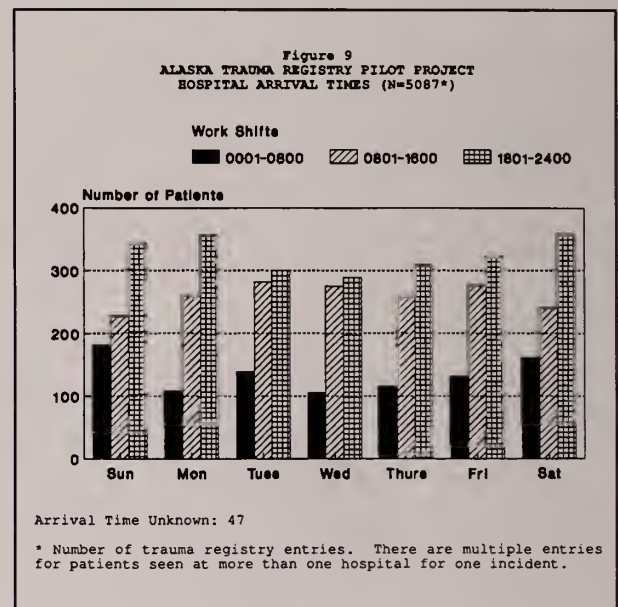
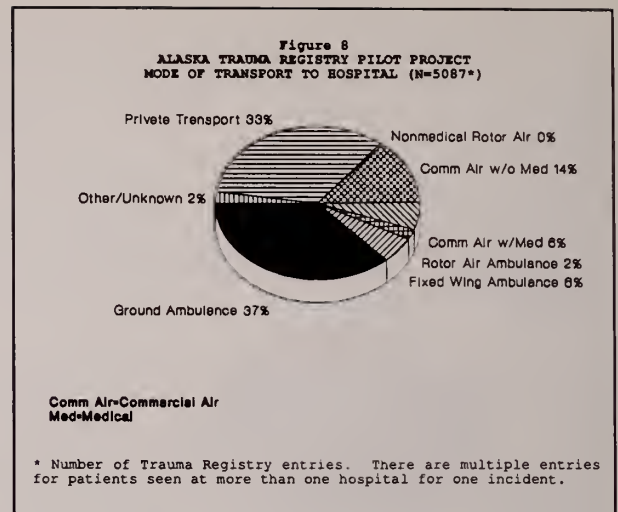


Most of the injuries in the pilot study occurred on the highway (25 percent) followed closely by injuries in the home (21 percent) (Figure 7). Mode of transport to the hospital was most commonly by ground ambulance (37 percent of the time), but 33 percent of the transports occurred by private vehicle or as walk-ins. Ambulance transport by air or ground ambulance was documented in



only 45 percent of transports to the hospital, however an additional 6 percent were accompanied by a medical escort (Figure 8). The registry also provided important data on peak utilization times of hospital emergency departments. Figure 9 shows that the greatest number of trauma admissions were between 4:00 p.m. and midnight, with Saturday, Sunday, and Monday being the peak utilization days.

The orthopaedic service was the leader among the hospital admitting services during the pilot project (Figure 10). Forty-seven percent of the 4,860 patients brought to a hospital were admitted to this service. Another 14

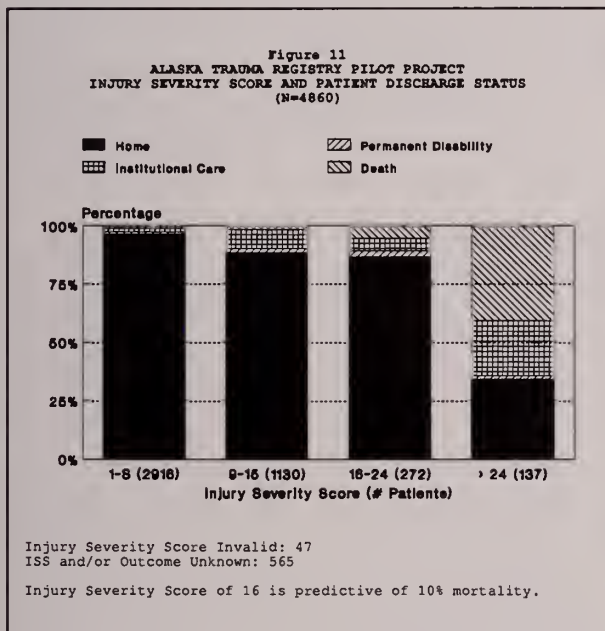


percent of the patients were admitted to general surgery and 14 percent were admitted to a non-surgical service. Out of the 3,787 surgical cases, only 233 (6 percent) required a subsequent operation. Eighteen patients (less than 1 percent) received emergency abdominal, thoracic,



vascular, or cranial surgery more than 24 hours after admission. The average number of hospital days per patient was 8.4. The average number of ICU days per patient was 6.1.

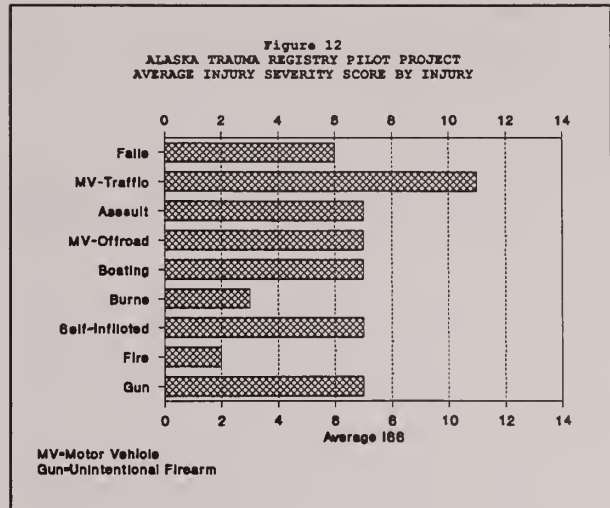
The Injury Severity Score is an index of anatomic injury severity on a scale from 1 to 75, with 75 being the most severe. A patient's injuries are classified by six body regions and scored on a scale from one to six based on the most serious injury in that region. The top three scores are then squared and summed to obtain the Injury Severity Score. The Injury Severity Score closely correlates with the morbidity and the functional discharge status of the patient (Figure 11). There were more than 400 severely injured patients (i.e. an injury severity score predictive of at least 10 percent mortality). Motor vehicle crashes clearly account for the higher injury severity scores, meaning that these are more serious injuries (Figure 12).



## CONCLUSIONS

A major public health problem facing Alaska has been identified - death and disability from traumatic injury. Our goal is to decrease suffering, prevent loss of productivity, and more importantly, help the public avoid permanent disability or loss of life from injury. The development of a strong trauma system and effective injury prevention programs is essential to this process. The trauma registry will become a tremendously valuable tool in the continual reassessment of Alaska's trauma system, and will help identify and evaluate objectives for injury prevention.

The evaluation of care requires analysis of multidisciplinary components which all play very important roles in the total care delivered to the severely



injured, as well as to those less severely injured. The trauma registry serves as the beginning of the standardization process necessary to perform continued evaluation and assessment of the quality of care rendered to the injured patient. It is essential that this data be consistent and accurate and that it be used as a measurement of the system's effectiveness. As part of these objectives, a number of audit filters, or clinical indicators, have been identified that mark cases for review. These filters, recommended by ACSCOT for all trauma registries, are included in the quality assurance summary report (see Appendix A for listing).

Currently, all 25 acute care hospitals in Alaska have agreed to participate in the trauma registry. Within two or three years, it is anticipated that we will interface with the developing national trauma registry and therefore be able to compare our data and quality of care to national standards.

Of major importance in the establishment of a safer society is the education of the public and the implementation of passive and active prevention programs which will decrease the incidence or severity of injuries. Data from the trauma registry also will enable us to approach the legislature and other governmental bodies in more meaningful ways as we attempt to influence the creation of laws or public policies dealing with injury-causing activities in this state. The establishment of a trauma registry in Alaska may be one of the most significant developments in the public health arena with respect to injury control in the last two decades.

## APPENDIX A

### QUALITY ASSURANCE AUDIT FILTERS

1. Ambulance scene time greater than 20 minutes;
2. Absence of ambulance report on medical record for patient transported by pre-hospital EMS personnel;

3. Patient with Glasgow Coma Scale less than 13 who does not receive a CT scan of the head within 2 hours of arrival at the hospital (this standard cannot be met in much of rural Alaska due to long transport times to hospitals with a CT scanner);
4. Absence of sequential neurological documentation on emergency department record of trauma patients with a diagnosis of skull fracture, intracranial injury, or spinal cord injury;
5. Absence of hourly chart documentation for any trauma patient beginning with arrival in the emergency department, including: time spent in radiology, up to admission or to the operating room or the ICU; death; or transfer to another hospital;
6. Comatose trauma patient leaving the emergency department before mechanical airway is established;
7. Patient seen in the emergency department, released, and subsequently admitted to the hospital within 72 hours of the initial evaluation;
8. Any patient sustaining gunshot wound to the abdomen who is managed nonoperatively;
9. Patients requiring laparotomy, which is not performed within two hours of arrival at the emergency department;
10. Patients with epidural or subdural brain hematomas receiving craniotomy more than four hours after arrival at the emergency department, excluding those performed for intracranial pressure monitoring;
11. Patients transferred to another health care facility after spending greater than six hours in the initial hospital;
12. Interval greater than eight hours between arrival and treatment of blunt compound tibial fracture or open laceration of a joint;
13. Abdominal, thoracic, vascular, or cranial surgery performed greater than 24 hour after arrival to the hospital;
14. Unplanned return to the operating room within 48 hours of initial procedure;
15. Trauma patient admitted to the hospital under care of admitting or attending physician who is not a surgeon;
16. Nonfixation of a femoral diaphyseal fracture in an adult trauma patient;
17. All trauma patients developing deep venous thrombosis, pulmonary embolus, or decubitus ulcer;
18. Specific complications including shock, cardiac arrest, myocardial infarction, compartment syndrome, dysrhythmia, acute arterial occlusion, abdominal wound dehiscence, evisceration, wound infection, renal failure, acute respiratory failure, pneumothorax, hemothorax, pneumonia, sepsis, GI bleeding, pseudomembranous colitis, small bowel obstruction, fistula, inadvertent enterotomy, stroke, or encephalopathy;
19. Patients with a diagnosis at discharge of cervical spine injury not indicated in admission diagnosis;
20. All trauma deaths; and
21. Adult patients receiving transfusion or platelets or fresh frozen plasma within 24 hours of arrival at the emergency department after having received less than eight units of packed red blood cells.

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# Health Locus of Control in Chukotka Children

Edward B. Deaux, Ph.D.<sup>(1)</sup>

## ABSTRACT

Two groups of children in the cities of Anadyr and Pevek in the Chukotka Region of the Soviet Far East were administered a Russian translation of the Children's Health Locus of Control Scale in July, 1991. Results were analyzed to assess the similarities between response patterns among the Russian children and those found in American children. The analyses revealed a consistency in the data suggesting both face and theoretical validity of the Scale. It appears that the underlying mediating variable related to the children's perceived control over their health is operating in this Region of Russia in much the same way that it does in the United States.

## INTRODUCTION

Social learning theory focuses on the interaction of individuals and their environment, emphasizing learned social behavior. One of its premises is that there are unity and consistency to personality, and much of the work related to social learning has studied traits in behavior that seem to be set early in life and, to varying degrees, pervade the way individuals interact with their environments. One such trait has been called the Locus of Control (1), which is a mediating variable describing the internalized perception that one holds of the extent of one's control over his or her destiny. The two ends of the Locus of Control continuum are represented by the **external** perception of control -- in which the individual feels that future events are largely caused by factors out of his/her control -- and the **internal** perception of control, which describes the opposite view -- that effects are largely the result of one's own behavior and are therefore comparatively within one's control.

Early studies of Locus of Control viewed the concept globally and researched the ways that "Internals" compared with "Externals" on various tasks, primarily those related to college education (because most of the subjects were college students). Later work led to the development and refinement of more specific scales that target different elements of behavior, one of which is health. A substantial literature has been established that shows, in general, that Internals take better care of themselves;

voluntarily seek out more health information; respond more favorably to health promotion programs; are better able to lose weight and counter other unhealthy habits; enjoy a higher level of mental health; handle severe health problems and disabilities better; and differ from Externals in many other health related areas (2-7).

When studies began to show that the Locus of Control is a personality trait that is apparently fixed early in life, children's Locus of Control scales were developed. One children's scale that measures relative Internal-External expectations regarding health outcomes was published by Parcel and Meyer in 1978 after extensive testing and normalization. Since its publication, it has been used in a variety of contexts with a variety of children. The trends for the Children's Health Locus of Control Scale (CHLCS) are consistent with other locus of control scales that have been studied over the years. There is typically a difference between genders, with females responding with a more external perception than males; as children's ages increase so do their tendency to respond in an internal direction; and minority children tend to be more external than majority (i.e., White) children. One study conducted in Alaska showed that children who live in more isolated communities respond in a more external direction than do children from larger, more central communities (8). Summing the results of these studies, one can generalize that females, younger children, minorities, and children who live in isolated communities feel that they have comparatively less control over their future health than do males, older children, Whites, and those who are less isolated. These different influences seem to compound in an additive fashion.

Although some cross-cultural research on Locus of Control has taken place within the United States (e.g., 9), to date no studies have been published comparing children in the United States with children from the Soviet Union. As a result of the establishment of an exchange of health professionals between Alaska and the Soviet Far East by the Institute for Circumpolar Health Studies, the opportunity arose for such data gathering to begin, and this article presents the results from the first exploratory work. Simultaneous with the opening of avenues for such research, enormous changes have been occurring within Russia and the Soviet Union, and the stability of expectations of the future -- for health or any other aspect of one's existence -- has certainly been disrupted. At the

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time that the children were surveyed (in July, 1991), however, the dissolution of the Soviet Union was not a reality, and the impact that any forebodings of that extraordinary change had on the children may have been small. One can only speculate about the impact of these social changes.

The political foundation of the Soviet Union for much of the twentieth century has been built with the bricks of governmental control, which has included a state-controlled health system. In many respects teaching young people that they have control over their own destinies is made difficult by the political system which has predominated in the Soviet Far East for the last eight decades. It was with interest and speculation that the present study was undertaken, and hypotheses about the results were loosely framed within the context of expectations related to the apparent orientation of the historical Soviet system to minimize individual control and maximize governmental control and responsibility.<sup>[footnote 1]</sup>

As the first in a series of studies, which will later include comparisons between matched groups of Soviet and Alaska children, the purpose of the present research was to assess in Chukotka children several relationships that have been shown to prevail in United States children among several independent variables and the Children's Health Locus of Control Scale. Whereas a precise comparison of Alaska and Chukotka children would be ideal, the problems inherent in such a study, not the least of which is the translation of the Scale items, may prevent a definitive comparison. But it is possible, without invoking uncontrolled variables that are replete in any between-language study, to compare the consistency of trends *within* the two groups. If the relationships between variables that have been shown to prevail among United States children also prevail among Chukotka children, an inference can be drawn regarding the validity of the concept, if not the precision of a given instrument. It was thus conceived that this preliminary research would study three aspects of the Children's Health Locus of Control Scale, as they have been shown to exist among children in the United States. These were (a) the trend for older children to respond in a more internal direction than younger children; (b) gender differences, with boys

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1. This view of the Soviet system is pervasive among Americans, but it was also discussed at length with health professionals in the Magadan and Chukotka Regions during the health exchange. The unanimous perception on the part of these individuals is also that the government-run system has been designed to minimize individual responsibility and control. This is not dissimilar to the position of the government-run Public Health Service in the United States during much of the same period of the twentieth century.

responding with a more internal perception of control than girls, and (c) differences related to the relative isolation of the communities in which the children resided, with children from more isolated communities responding in a more external direction. The question that was asked was: Irrespective of overall differences between Scale scores of Chukotka and American children, do the same trends exist *within* these two groups?

In order to answer this question, two groups of children were tested within the Chukotka Region of the Soviet Far East, which is within the Russian Republic of the Soviet Union.

## METHOD

### *Subjects: Anadyr and Pevek*

Two samples of children were surveyed, one in Anadyr and the other in Pevek. Each sample was composed of school-aged children who were participating in a summer "day camp," which represents a structured recreational and educational program that is provided by the government. These youth constitute a fairly diverse group, although diversity is limited within the socio-economic structure of either Anadyr or Pevek. The two towns are of similar size, with about 20,000 residents in each. Anadyr is, however, farther south, much more developed as a transportation and military hub, and better served by several distribution systems than is Pevek, which is 370 km above the Arctic Circle and fairly well cut off from the rest of the Republic for much of the year.

The characteristics and demographics of the two groups were similar. In Anadyr, the sample totaled 39 children, 26 (66.6 percent) of whom were females and 13 (33.3 percent) males. The mean age was 9.3 years, with a range from 7 to 13. No questions were asked about racial or ethnic grouping, due to the sensitivity of those distinctions in Chukotka.

In Pevek, the sample totaled 30 children, for whom the mean age was 9.9 years, ranging from 6 to 13. Sixteen of the children were female (53.3 percent) and 14 (46.7 percent) were male. Again, the racial and ethnic background of the children remain unknown.<sup>[footnote 2]</sup> No selection criteria were used for either sample. In both Anadyr and Pevek, the author and his interpreter requested permission from the school in which the day camp was being held, to meet with the children and conduct the survey. The school personnel in Anadyr and Pevek were cooperative, helpful, and warmly hospitable;

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2. Although the children themselves were not asked to indicate their race or ethnic group, informal inquiries made of the teachers and the interpreters revealed that the large majority of these children were "newcomers" and therefore of Caucasian, Russian descent.



they also exhibited a great deal of interest in the scale and the concept, as did the health professionals and Ministry staff who were involved in the exchange.

## **INSTRUMENT**

The Children's Health Locus of Control Scale is a 20-item, self-administered questionnaire that was designed by George Parcel and Michael Meyer and standardized on hundreds of youth (10). The authors retain the copyright, and the Scale was used here with their permission. The original Scale, which consists of true-and-false questions, was translated to Russian and later back-translated by the interpreter in Anadyr to verify its accuracy. Examples of the questions are: "If I get sick, it is because getting sick just happens," and, "When I am sick I can do things to get better."

The scoring of the questionnaire conformed to that employed by Parcel and Meyer (10), with a score of two given for each internal response and a score of one assigned to an external response; items with no response were assigned a value of 1.5.

## **TESTING PROCEDURES**

In both Anadyr and Pevek, the questionnaires were administered in a class-room setting, with the camp teachers present. The time of administration in both cases was early afternoon. A questionnaire and pencil were passed out to each of the children. A cover sheet (developed by Parcel and Meyer) explained the questionnaire in general terms, informed the children that there was no "right" or "wrong" answer to any question, and provided them with two practice questions to ensure that the instructions were being followed and the "yes" and "no" answers were being circled correctly. The interpreter read the cover sheet and each of the questions; the children had the opportunity to ask for clarification of any items that they did not understand. After the 20 items were completed, the children were instructed to circle their sex and write down their age in years. There was a final item, which asked the children to "grade" their own health, on a scale from one to five, with five representing the most healthy.

## **SUBSCALES**

In addition to the total score for each child, which had a maximum of 40 for someone who answered each of the 20 items in the internal direction and a minimum of 20 for someone who answered each item in the external direction, there are three subscales that were devised as a result of factor analyses conducted by Parcel and Meyer (10), following earlier work related to locus of control (e.g., 11). These subscales are described as (P) powerful others,

(I) internal control, and (C) chance control, which are considered three different dimensions of the CHLCS. Each subscale is composed of a subset of the 20 items in the full Scale and was calculated for each of the subjects in the study and were analyzed in addition to the total Scale score.

## **ANALYSES**

The questionnaires were scored by hand, and the scores were entered into a computer. Statistical procedures, both descriptive and inferential, were carried out using the Systat software package (copyright Systat, Inc.). In the presentation of the results, two-tailed tests of significance were uniformly used.

## **RESULTS**

First of all, there were no significant differences in the demographic variables between the two groups. Cross-tabulations of gender by site produced a Chi Square of 1.616 ( $df = 1; p = .204$ ). The difference in age between the two groups was not significant ( $t = 1.317, df = 67, p = .192$ ). The relative homogeneity of the groups enables the use of inferential statistical analyses, which were employed on the Scale scores.

The first experimental question that was asked of the data was whether a relationship exists between the age of the children and their total score on the CHLCS, which was initially answered by the Pearson product moment correlation between the two variables. With all 69 children combined, that correlation is significant ( $r = 0.349; df = 67; p < .01$ ), with the internal direction of the responses increasing with the age of the respondent.

The second experimental question (i.e., whether there is a gender difference) and the third question (i.e., whether there is a difference between sites) were answered by an Analysis of Covariance, with age as the covariate (since age is significantly correlated with the Scale score). The results of that Analysis of Covariance are shown in Table I.

The covariate analysis revealed that the small difference between the boys (mean = 29.82) and girls (mean = 29.08) was not significant, although the boys scored in a slightly more internal direction than the girls. The difference between the two sites, however, was significant; the mean Scale score for the Anadyr group was 29.97, while the mean of the Pevek group was 28.63. The interaction between the two variables was not significant.

The three subscales were also analyzed, and the results showed that the primary contributor to the differences was the (P) subscale, which reflects the feelings of loss of control on the part of the children due to powerful others. The correlation between (P) and age, with both groups combined, was significant ( $r = .275, df = 67, p <$

Table I.

**Analysis of Covariance**  
**Dependent Variable: Total Scale Score**

Source	df	SS	MS	F	p
Sex	1	25.372	25.372	3.293	.074
Site	1	60.527	60.527	7.856	.007
Sex x Site	1	4.600	4.600	0.597	.443
Error	64	493.096	7.705		

N.B. Two cases were deleted due to missing data.

.05), and an Analysis of Covariance was therefore conducted, the results of which are shown in Table II.

As was the case with the total Scale score, there was a significant difference between the Anadyr and Pevek groups in the (P) subscale. With the subscale adjusted to

Table II.

**Analysis of Covariance**  
**Dependent Variable: Powerful Others Subscale (P)**

Source	df	SS	MS	F	p
Sex	1	0.215	0.215	5.325	.024
Site	1	0.370	0.370	9.179	.004
Sex x Site	1	0.043	0.043	1.059	.307
Error	64	2.582	0.040		

N.B. Two cases were deleted due to missing data.

allow a comparison with the overall scale score,<sup>[footnote 3]</sup> the means for Anadyr and Pevek were 29.72 and 27.62, respectively; Pevek children expressed more attribution of control to powerful others than did Anadyr children (i.e., the scoring continues the convention that the higher

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3. Eight of the 20 questionnaire items compose the (P) subscale, and the statistical analyses were conducted on the per-item mean for this subset of 8 items. For purposes of clarifying the report, the per-item mean was multiplied by 20 to produce an effective (P) score that can be compared with the 20-item overall scale score.

the score represents greater personal control and, therefore, less control by "powerful others"). The (P) subscale also showed a significant difference between girls and boys, unlike the overall Scale score, with means of 29.88 and 28.16, respectively. The interaction between these two variables was not significant.

There were no significant differences between any of the independent variables in the analysis of the "grade" that each child assigned to his/her personal health. There was very little variation, with a strong skew in favor of the higher grades of 4 and 5. The means for Anadyr and Pevek were 4.09 and 3.90, and those for boys and girls were 4.06 and 3.98, respectively.

## DISCUSSION

The results show that the positive correlation between the age of the respondent and the extent to which he/she perceives to have an internal locus of control over health exists among children of Anadyr and Pevek, as it does among children of the United States. The findings that there was no significant difference between girls and boys in the overall Scale score differed from results reported for American children. However, the specific subscale that measures the perception of "powerful others" having control did in fact reveal a significant difference between the genders. Differences were also found in both the overall Scale score and the (P) subscale between the Anadyr and Pevek groups of children, with the Anadyr group consistently showing a perception of more control than the Pevek group. To the extent that Pevek is more isolated than Anadyr, this finding is also consistent with research conducted on American (i.e., Alaska) children. In general, the results show that the trends that have been found to prevail among American children in the Children's Health Locus of Control Scale and one of its subscales also prevail among children of the Chukotka Region of the Republic of Russia.

The implications of these findings are noteworthy in several respects. First, this preliminary study has shown that there is a consistency in the functional relationship between the Children's Health Locus of Control Scale scores and three independent variables in two groups of Chukotka children compared with previous research conducted with children in Alaska and the Lower 48. This finding alone gives support to two conclusions. First, the concept of Health Locus of Control itself must have validity in this Soviet population. Second, the Parcel and Meyer Scale, as translated, must also have a degree of validity, since the scores "behave" the same way among Russian children as they do among American children. Both face and theoretical validity appear to have been demonstrated.

If the government control of the health system in the Soviet Far East had totally eradicated any perception of



personal control on the part of its citizens, it would be unlikely that any shift in that perceived control would be found to be correlated with age, nor would the other differences be seen. That there was a difference between Pevek and Anadyr seems to substantiate the influence that relative isolation has on a child's perception of personal control over health, an influence that is as undefined in Alaska as it is in Chukotka. However, because the proportion of Natives is greater in Pevek than in Anadyr (and the race of the children was not ascertained), one cannot reject the hypothesis that the between-site difference is attributable to race rather than isolation *per se*. The finding that there is a significant gender difference in the (P) subscale but not in the overall Scale score is also of interest and may speak to a sociological factor related to sex roles in Chukotka that are not as strong an influence here. This aspect of the research warrants further investigation.

In conclusion, the results are encouraging, as they also raise new questions regarding the concept and testing of health locus of control among the young people of the Chukotka Region. Future work needs to focus on the relationship between CHLCS and health-related behavior in Russia, to assess the extent to which the control variable mediates action concerning health promotion and risk reduction in the young, thereby possibly leading to a sharing of programmatic endeavors designed to counter an external perception of control which have been found to be successful in the United States. Once sufficient data of this nature are accumulated, it may be possible to make comparative measurements between Alaska and Chukotka children on a Scale that overcomes the problems inherent in the differences that exist in language, "world view," and other social factors. One is tempted to make such a comparison with the data that were collected for the present study; Parcel and Meyer report an average CHLCS score for children of this age bracket (n = 140) of 30.96, which, when compared to the overall score for the Chukotka children (n = 69) of 29.21, shows a clear (and significant) difference, with the American children demonstrating a more internal perception of control. Although this may indeed suggest a true difference in the populations, it is far too early to draw such a conclusion from these data. Hopefully future research with Russian and Alaskan children, including pilot programs in health education, will one day disclose the parametric, underlying locus of control perceptions.

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# Peripherally Inserted Central Catheters - Review and Case Reports

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Paul J. Gionet, R.Ph.<sup>(2)</sup>

## ABSTRACT

Patients have been receiving intravenous therapies in their homes since the early 1980s. Peripherally inserted central catheters have recently played a major part in the successful transition from hospital to home. These catheters are less invasive, have a lower overall infection rate and are less costly than other central venous catheters. This review and presentation of two case studies illustrates the advantages of this type of catheter for patients receiving home intravenous therapy.

## INTRODUCTION

Since the advent of polyvinylchloride and, more recently, silicone elastic polymers (Silastic®), central venous catheters or indwelling central lines have become commonplace fixtures in the administration of intravenous therapies.

In 1983 Gesco, international first produced their Per-Q-Cath PICC (Peripherally Inserted Central Catheter). This Silastic®, Radiopaque catheter was intended for use as a means of allowing central venous access in neonates. Since then, the catheter has undergone many changes and improvements. In the last five years their catheter has seen a greater increase in use by the adult population for extended intravenous therapies.

As the name implies, peripherally inserted central catheters are catheters introduced via a peripheral vein and threaded to the subclavian vein or the superior vena cava with the aid of an introducer needle (which is later removed) and a guidewire (optional). The procedure is done using sterile technique and is similar to the insertion of a peripheral intravenous device. With the unique "peel-away" introducer needle used by most PIC catheter manufacturers, the Seldinger method<sup>(1)</sup> of catheter insertion is avoided. This means less trauma to the patient and easier insertion for the operator.

Besides the Per-Q-Cath, Davol Corporation manufactures a Groshong® PIC catheter. These PIC catheters

have the added advantage of the patented 3-way valve familiar on the Groshong tunneled catheters.

### Data for Peripherally Inserted Central Catheters for Ivy Pharmacy March 1990 to August 1991

Total Catheters Attempted	32
Total Catheters Placed	31

#### Types of Fluids Infused

Antibiotics	15	(48%)
Chemotherapy	13	(43%)
Blood	1	(3%)
Hydration	1	(3%)
Pain control	4	(13%)

#### Type of Catheter Used

Per-Q-Cath	26	(84%)
Groshong	5	(16%)
Total Catheter Days	737	
<u>Patients Without Complications</u>	27	(87%)

#### Complications

Phlebitis	1
Catheter Sepsis	0
Infusion Pain	1
Occlusion	1
thrombus	1
Age Range of Patients	16 to 73 years of age

## DISCUSSION

The peripherally inserted central (PIC) catheter provides an alternative to centrally placed catheters for patients receiving intravenous therapy. Nationwide studies have shown the phlebitis and infection rate to be well below that of other vascular access devices<sup>(2,3)</sup>.

Insertion of the PIC catheter is less invasive and less traumatic than insertion of tunneled and implanted catheters. Because these lines are inserted peripherally there is no danger of pneumo- or hemo-thorax. Trained intra-

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venous nurses can provide access with PIC catheters without the added expense or trauma of a surgical procedure done in the operating room.

The insertion site of a PIC catheter is one of three veins in the lower arm. The basilic, median antebrachial, and cephalic veins are all choices for insertion of a PIC catheter. The basilic vein offers the best route to the subclavian vein and is frequently the vein used for placement of the line. After the vein is isolated an introducer needle is used to cannulate the vein. The catheter is threaded through the hollowcore of the needle until it reaches the desired tip placement site (this can be mid-sternal in the subclavian vein or can be advanced to the superior vena cava). If the catheter is placed in the superior vena cava an x-ray is usually obtained to verify placement of the catheter tip. If a guidewire was used it is now removed and the patency checked by a return flow of blood from the catheter using a syringe. The needle is removed from the patients' arm and the site cleaned of blood. The catheter is then heparinized and a cap put on or attached to an infusion pump for immediate use. No sutures are required to secure the catheter. A sterile occlusive type dressing and tape are used to hold the catheter in place. Weekly dressing changes done by a trained nurse may account for the lower infection rate for the PIC catheter. With the tip placed in the subclavian vein or the superior vena cava there is a low drug-induced phlebitis rate as with all centrally placed catheters.

Removal of the PIC catheter is done by slowly pulling the line from the insertion site to prevent venospasm. The catheter is measured to insure that the entire line was retrieved and pressure applied to the site until any bleeding stops.

With increasing numbers of patients receiving intravenous therapy at home, the issues of cost and compliance are important considerations in deciding the manner of treatment. Short and intermediate term therapies using drugs caustic to veins can be more easily accomplished using a PIC catheter<sup>(4)</sup>. Peripheral restarts are eliminated and nursing visits minimized. Currently, the cost of a Groshong PIC catheter is about \$65 per unit as compared to about \$235 for a conventional Groshong central venous catheter. The PIC catheter can be inserted at the physician's office or at the patient's home.

### CASE 1.

A 28-year-old male was referred by Mary Stewart, M.D. for treatment of a clinical stage II-A bulky, nodular sclerosis Hodgkin's lymphoma. The patient was found to be in good health other than the tumor. Placement of a Groshong central venous catheter (CVC) and ABVD (adriamycin, bleomycin, vinblastine, dicarbazine) chemotherapy regimen was indicated, followed by radiation. The patient initially resisted placement of the central venous catheter and the first two cycles of chemo were

administered peripherally, at the physician's office.

During the second cycle the patient began complaining of pain in his hands and arms as a result of infusing the vesicants peripherally and it was apparent that a central line was needed. The patient was evaluated for placement of a PIC catheter and agreed to having one placed for his chemotherapy.

A 4.0 French Groshong PIC catheter was placed in the basilic vein of his left arm and threaded to the subclavian vein (midsternally by previous measurement). The patient successfully completed the remaining four cycles of chemo without incident and with significant reduction of the tumor noted.

During his therapy the patient was very active, engaging in skiing and weightlifting. He was seen weekly for dressing changes of the catheter site during the 47 days the catheter was in place.

### CASE 2.

A 20 year-old female patient was referred by Robert Lipke, M.D. for placement of a peripherally inserted central catheter for out-patient antibiotic therapy following dog bites to both hands. X-rays showed no fractures to her right hand but a fracture of the middle phalanx of the left index finger with marked soft tissue damage. An incision and drainage was performed and the patient started on intravenous cefazolin. Enterobacter grew out from the culture, so the antibiotic was changed to Ticarcillin/clavulanate 3.1 grams every six hours. At this time a 2.8 French Gesco PIC catheter was placed in her median antebrachial vein and the timentin/clavulanate delivered using an ambulatory infusion pump. She received the antibiotic for the next 30 days. The catheter was removed intact and the patient was prescribed oral antibiotics.

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### ACKNOWLEDGMENTS

The authors would like to thank Mary Stewart, M.D. and Robert Lipke, M.D. for their contributions to the case studies.

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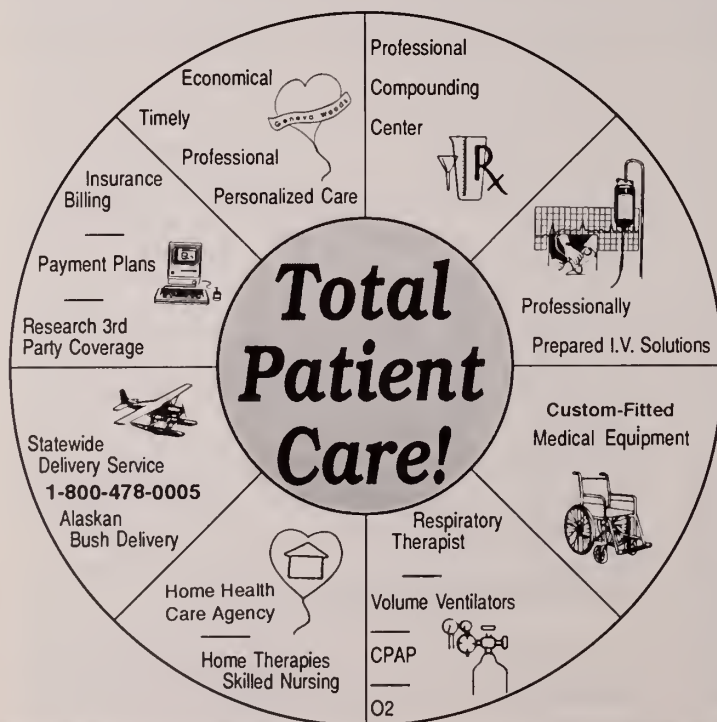
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# For the Record . . .

## HEALTH CARE IN THE WORKPLACE

by Senator Ted Stevens

The link between health care insurance and the workplace is one of the peculiarities of modern life. Unlike auto, homeowners' and most life insurance policies, all of which consumers purchase on their own, health insurance for many Americans is partially provided by an employer.

In a booming economy, nobody pays much attention to the problems this creates. Employers are flush and consumers are buying, so rising health care costs are easily padded into the rising prices of goods and services.

But when the economy softens, the weaknesses of an employer-based health insurance system are apparent. The main failure of the system can be devastating: when workers lose their jobs they lose their health benefits.

When health coverage is paid directly by employers, it creates the illusion that health care insurance is "free." Many Americans have never had to deal with shopping for health insurance. And with the cost of individual health care policies today, few unemployed Americans who would no longer be part of a group could afford health insurance payments.

From all parts of society there are cries for health care reform, so that more Americans will be insured and costs will be affordable. Current estimates are that at least 35 million Americans have no health insurance.

In my review of health care plans, I found a consumer choice system proposed by the Heritage Foundation which would attack the problem of health care cost at its source. It would eliminate special tax treatment — established 50 years ago — for employer-provided health plans. Heritage's proposal would replace that special treatment with a new system of individual tax credits, which would help people buy their own insurance from a source of their choosing. The Foundation's plan would be portable, one that individuals would keep regardless of their employment status.

A massive education program would be important to the success of a plan such as the Heritage Foundation's. Americans must understand that medical coverage is a personal obligation, just as it is a personal obligation, required by many states, for car owners to provide their own auto insurance.

By shifting the tax breaks from the workplace to individual purchasers, with tax breaks for all, the Heritage plan would create a new market for innovative health-benefit programs. It would also help consumers to be cost-conscious. When individuals start paying for

insurance and routine medical care out of their own pockets (tax breaks under the proposed plan would provide most of the funds), they should pay more attention to how much health insurance costs, and shop around for good value for their money. The Heritage plan incorporates a voucher system for Americans who would not benefit from a tax credit.

This is similar to the kind of decision-making opportunity that characterizes the Federal Employees' Health Benefit Plan (FEHBP): a variety of carriers competing in the marketplace. It's the plan available to members of Congress. I'm convinced a similar plan could make health care insurance available to all Americans.

We know that consumer-choice works for health plans. Nationwide, federal employees may choose from some 400 health plans. A federal employee selects the plan that best suits his or her lifestyle, family size, age, and other factors important in coverage. In contrast, most private sector workers have only one choice.

A consumer-choice like Heritage's proposal would generate for all Americans - whether or not they're employed - the same variety of carriers that one sees in the federal employees' system.

Because FEHBP plans have to compete for business, average cost increases have been less than cost hikes in non-competitive, corporate-sponsored insurance plans.

There's no doubt that the best solution to the health-financing crisis is a strong dose of private enterprise. Adoption of the Heritage plan, according to a poll conducted by the northern Virginia health consulting group Lewin/ICF, would provide the choices so that Americans would have access to affordable health care. And equally as important, they would be able to keep their insurance policy if they moved to another job or left the work force.

With individuals making decisions about what kind of health care to purchase for themselves and their families, and insurance carriers responding to the market forces created by choice, the survey indicated there would be nearly an \$11 billion reduction in health care spending the first year.

It's going to take a two-pronged effort: educating the American public that health insurance is each individual's responsibility and not their employer's; and Congressional legislation setting up a new public plan with choices to satisfy the needs of all Americans.

# From the Commissioner. . .



Theodore Mala, M.D.  
Commissioner of Health and  
Social Services

## Explaining Alaska's Certificate of Need Program

The State of Alaska has had a Certificate of Need statute since 1976. The law has two purposes: (1) to promote consumer access to services and, (2) to contain health care costs. The statute requires health care facilities to obtain a "Certificate of Need" before undertaking a variety of projects affecting physical facilities or services.

Alaska's health professionals need to be aware of how the Certificate of Need process works in our state in order to avoid unnecessary delays in health facility development or expansion. Delays, of course, may affect local health service delivery.

A health care facility is defined in Alaska statutes as being, "A private, municipal, state or federal hospital, psychiatric hospital, tuberculosis hospital, skilled nursing facility, kidney disease treatment center (including freestanding hemodialysis units), intermediate care facility, and ambulatory surgical facility. . . ." Under the law, Alaska Pioneer Homes and the offices of private physicians and dentists are not subject to Certificate of Need requirements.

The types of projects which must get Certificate of Need approval are those involving expenditure of \$1 million or more for: construction of a health care facility; alteration of bed capacity of a health care facility; or a change in a category of health services.

Any person intending to apply for a Certificate of Need must submit a letter of intent to apply not less than 60 days nor more than one year before the application is submitted. A letter of intent must contain a description

of the proposed activity, the estimated cost and the estimated starting and completion dates. Once a letter of intent is received, the State Health Planning Agency will make a determination within 20 days to see whether a Certificate of Need is required.

The next step in the process is for the applicant to submit a Certificate of Need application. Once the application has been submitted, the Health Planning Agency has 20 days to review it for completeness. From the time an application is judged to be complete, the agency has 90 days for review. As part of the review process, the Health Planning

Agency is required to consider the following criteria: (1) a demonstration of need, (2) financial feasibility, (3) alternatives, and (4) the relationship of the proposed project to the existing health system.

After review, the agency will prepare and submit its findings and recommendations to the commissioner of Health and Social Services for a decision. When making a decision the commissioner must consider four things: (1) the report from the Health Planning Agency, (2) the record of public comment, (3) the current state health plan, and (4) applicable state and federal laws.

For more information about the Certificate of Need process, I encourage you to contact the Planning Section of the Department of Health and Social Services in Juneau at 465-3015.

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**The types of projects which must get Certificate of Need approval are those involving expenditure of \$1 million or more.**

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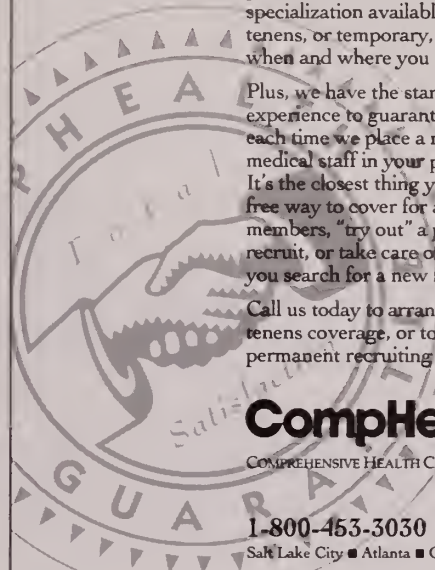
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# SEXUALLY SPEAKING . . .

## A Weekend with Joseph Lopiccolo, M.D.

By Mary B. Cavalier, M.S.<sup>(1)</sup>

This past weekend the Alaska Chapter of the American Association of Marriage and Family Therapists sponsored a workshop with the author of *Becoming Orgasmic* — Dr. Lopiccolo. Although, this issue was to be part II of the psychological aspects of infertility, I thought I would take a detour to share with you some of the new information deemed from the workshop.

### THE GOOD OLD DAYS ARE GONE

Few sexual dysfunctions are treated quickly and easily. Unlike the days of Masters and Johnson, information about sexual techniques are readily available to the general public through talk shows, magazines, etc. As pointed out in the workshop, a person has to go out of his or her way to remain naive about sex. Therefore, the cases which make their way to my office are full of complications.

When a patient presents with a sexual dysfunction, Dr. Lopiccolo pointed out a four element analysis needed in order to determine the course of treatment.

1. *Individual*: Is depression, anxiety or other psychological issue present?
2. *Family of Origin*: Is there history of sexual abuse? Is the person an adult child of trauma? Does the patient have a great fear of trust? etc.
3. *Couple*: What are the issues in the current relationship? Are there anger issues, communication problems, etc?
4. *Behavioral concerns*: Are there long hours of work? Children? Financial stressors?

All of these elements come into play when treating someone for a sexual dysfunction and if not taken into consideration the treatment will fail.

### HIGHLIGHTS

The following are highlights from the workshop which I will develop into full length articles in the future.

*Inhibited ejaculation*: Research has indicated a correlation between post concussion and the inability to ejaculate. Therefore, a complete medical history is necessary. A treatment suggestion is to use anal stimulation at peak of arousal. (Remember to consider the 4 element analysis before making this suggestion.)

*Low Drive*: Increasingly the number one problem presented by patients. Also known as the yuppy syndrome. Treatment needs to include 1) affectual awareness, 2) insight into early messages about sex (e.g. good girls don't, etc.), 3) cognitive restructuring (e.g. positive sexual statements to override the negative thoughts), 4) behavioral (e.g. sensate exercises, etc.).

*Painful Intercourse*: 50-60% cases are misdiagnosed as being psychogenic. A complete medical evaluation is strongly recommended.

*Incest*: Of noted interest in treating incest survivors, Dr. Lopiccolo pointed out 4 stages of grieving necessary before sex therapy can begin. These stages are 1) accepting the reality of what happened, 2) experience the pain of the loss of safety, trust, etc., 3) adjust to the environment (e.g. stop seeking approval from abuser), 4) withdraw from the abuser — psychologically leaving home.

### SUMMARY

There were many interesting issues discussed at the workshop and I will explore them more indepth in later issues. For now, enjoy the transitions of the season and I'll be returning back to infertility in the next issue.

<sup>(1)</sup> Robert Alberts, M.D. & Associates, 3340 Providence Drive, Anchorage, AK 99508.

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# President's Corner

As your new president, I am responsible for carrying out the duties spelled out in the Alaska State Medical Association's constitution and bylaws. This I will do to the best of my ability. There are also some personal goals that I feel are important to commit effort to over the next twelve months, and I would like to share those with you.

First, I hope we can work together to increase communication between the members and the Board of Trustees of ASMA. We face many decisions, and must prioritize the monetary and human resources that are available. Only through adequate feedback from you, the members, can we be confident the decision we make reflect your wishes. Initiatives were begun last year, such as making visits to medical staff meetings. We hope to continue and expand that face-to-face contact this year. We also hope to broaden the input to the House of Delegates by inviting representatives of the various specialty societies to the meetings. I've also pledged to personally phone every new physician to the state during my term to explain what ASMA is and invite their participation.

A result of improved communication and feedback is a more clear definition of goals and priorities. Sometimes we devote time and energy to projects that members do not feel strongly about. We also sometimes hear complaints that not enough is being done in a given area. Finally, since our budget is limited, choices must be made as to where to most fairly spend our dues. So a second goal is to more clearly define what is most important to our members, and to make sure ASMA commits its resources to those areas. A first step was taken last spring, and a retreat was held to examine our priorities.

A third goal is to improve the fiscal condition of ASMA. The financial spreadsheets for the past five years show that the expenses of operating ASMA have exceeded the revenue. We routinely run out of money in late summer or fall and must borrow funds to meet operating expenses for the remainder of the year. We will begin spending 1993 dues before the first of the year arrives. Clearly, we must balance our revenues vs. expenses by raising revenues or reducing expenses. An initiative in this area was begun by forming a budget committee to

work closely with staff on budget priorities and allocation.

A fourth goal is to increase the level of service we provide to our various constituencies. Although our members are our core constituents, ASMA also serves non-member physicians, government, and the public. We must offer services that will make it clear to non-members that joining ASMA is a good value. An initiative in this area was begun by ASMA staff this year called "Dialing for Docs." Non-member physicians in the state were asked what the most important issues facing them were, and how ASMA could assist them.

A final goal is to educate the public about ASMA members, informing them about the work our physicians do to serve the community and our profession, and the principles of medical and personal ethics they subscribe to by being an ASMA member.

What about increasing membership — shouldn't that be an important goal? Of course! But I've deliberately omitted it because the goals listed above are fundamental to attracting members.

ASMA must serve its members, have open channels of communication, be fiscally responsible, be a mechanism to achieve their goals, and promote their profession. If we can effectively accomplish these tasks, physicians will choose to become a part of ASMA.

You've now read what I think, so let me hear from *you*. Call, or drop me a line, and share your thoughts. Also, make use of your local delegates to communicate your feeling to the House of Delegates. I'll look forward to your participation.

Gary L. Johnson, M.D.  
President, Alaska State Medical Association

- 
- increase communication
  - examine priorities
  - improve fiscal condition
  - increase service
  - educate public
-

# RESOLUTIONS

## Adopted at the Alaska State Medical Association Annual Meeting Held in Anchorage, Alaska July 10, 1992

### 92-03 Mandate Formal Physician Involvement in All Areas of National Health Policy Development

BE IT RESOLVED, that the Alaska State Medical Association adopt the following policy: that there be legally mandated formal physician organizational involvement in all areas of health policy including negotiation of reimbursement, review of the quality and appropriateness of care, review of the appropriateness of fees and establishment of overall budgetary predictability; and

BE IT FURTHER RESOLVED, that the Alaska State Medical Association encourage and support the AMA in this effort.

### 92-4 Compliance with the Federal Trade Commission Order

BE IT RESOLVED, the Alaska State Medical Association agrees to comply with the provisions set forth in Sections I, II, and III of the Federal Trade Commission Order in Docket 9064 against the American Medical Association.

### 92-5 Thanking the ASMA Convention Committee, ASMA Staff, Speakers, Exhibitors, Contributors, Sponsors, and the Anchorage Hilton

BE IT RESOLVED that the Alaska State Medical Association express our appreciation to:

1. The Convention Committee, for their planning and preparation;
2. The Alaska State Medical Association staff, for their tireless and friendly attention to the millions of little details and arrangements inherent in any convention;
3. The speakers, who stimulated us with new ideas and challenged us with their informed opinions;
4. The exhibitors, who financially undergird our meeting and bring worlds of products and services to assist us in caring for our patients;
5. The contributors and sponsors, who devoted a considerable amount of time and effort toward making this a very memorable and successful convention; and
6. The Anchorage Hilton, for providing superb food and service during the President's Awards Banquet.

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# Prescription Medications - Some Important Guidelines

by NORCAL Mutual Insurance Co.'s  
Risk Management Department

The improper prescription of medication is the single most common procedural error in the practice of medicine. Fully fifty percent of iatrogenic injuries are related to prescription medications.

## THE HISTORY AND PHYSICAL

A. Eliciting a complete patient history takes time and it is very easy for a busy physician to skip a question or ignore the implications of an answer. However, a thorough history will provide much of the information necessary to avoid medication errors.

The patient history provides several opportunities to find out about the use of medications in the past, any reactions to them, current drug use (including over-the-counter drugs), allergies and clues to possible underlying illnesses. It is unnecessarily risky to prescribe medications without this information.

## RISK MANAGEMENT POINTERS

1. Always discuss the patient's history before prescribing medication, in order to rule out allergies and contraindications. Include questions about past medication use, any reactions, allergies and past medical problems that might affect drugs prescribed.
2. Be aware of the composition of drugs before prescribing medication.
3. Be sure that office staff is aware of the importance of allergy identification.
4. Use a consistent allergy labeling system on all patient charts and update the allergy information periodically. Check the chart and check with the patient for allergies before prescribing any new drug.
5. In your office, if a patient leaves the allergy section of a new patient history blank, ask about it. document either allergies or "No known drug allergies" in your review of past medical history.
6. Pay attention to patient's warnings of allergies, either known or suspected. Prescribe a different drug, if possible. If not, consultation with a specialist or allergist may be warranted.

B. Patients are often unaware that over-the-counter medications can interact with drugs prescribed by the doctor. Physicians must be aware of possible interactions and discuss them with patients.

## RISK MANAGEMENT POINTERS

1. Always remind patients that over-the-counter medication should be included in a list of current medications.
2. Many anti-inflammatory drugs and steroidal and non-steroidal drugs containing aspirin are contraindicated by patients' histories, particularly if the history includes renal insufficiency or GI bleed.
3. Be aware of drug interactions, particularly when patients are taking several concurrent medications.
4. If you prescribe a drug that may interact with an over-the-counter medication, be sure to warn the patient not to take any other medication without consulting you.

## DOCUMENTATION

There are numerous opportunities for errors in prescription reading and writing, but these errors are highly preventable. The following suggestions will help prevent errors of this type.

## RISK MANAGEMENT POINTERS

1. Establish a master medication list at the front of each medical record so that you can quickly assess the amount of drugs prescribed.
2. Clearly identify the dose, route and frequency of administration.
3. Do not place a zero after a decimal, since the decimal may not be seen, particularly if the document is photocopied.
4. For the same reason, always place a zero before a decimal.
5. If you write one number immediately following another, use a fraction instead of a decimal between them.

6. Be careful in writing the names of drugs that look alike, such as Cytosar and Cytosin.
7. Include directions for taking the medication.
8. Re-read your prescription.
9. Use only standard abbreviations or do not abbreviate.
10. Establish systems to ensure that vital signs are taken prior to administering medications and that changes in vital signs as a result of taking medications are documented.
11. Whenever you provide a refill, note it on the master list.
12. Educate your office staff about your medication refill policies.
13. Do not prescribe out of your specialty.

#### TELEPHONE REFILLS/ON CALL PHYSICIANS

Physicians who receive telephone requests for medication refills and on-call or covering physicians share some of the same pitfalls in prescribing. The possibility of error because of lack of knowledge of the patient's medical history or lack of access to the patient's chart is increased in both of these circumstances.



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#### RISK MANAGEMENT POINTERS

1. Before giving a new medication to a patient, a history and physical exam are necessary to rule out contraindications. Giving new medication without an exam is potentially dangerous.
2. Check the patient's chart before prescribing or refilling medications by phone.
3. If you refill medications for another doctor, give only enough of the drug to last until the other doctor returns.
4. Whether you are prescribing a new drug or an on-going drug, tell the patient to call you if he/she notices any problems.
5. If you write one number immediately following another, use a fraction instead of a decimal between them.
6. Be careful in writing the names of drugs that look alike, such as Cytosar and Cytosin.
7. Include directions for taking the medication.
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#### RISK MANAGEMENT POINTERS

1. Before giving a new medication to a patient, a history and physical exam are necessary to rule out contraindications. Giving new medication without an exam is potentially dangerous.
2. Check the patient's chart before prescribing or refilling medications by phone.
3. If you refill medications for another doctor, give only enough of the drug to last until the other doctor returns.
4. Whether you are prescribing a new drug or an on-going drug, tell the patient to call you if he/she notices any problems.



# Guest Editorial

## WHERE IS THE DRUG PROBLEM?

This article traces the history of drug use from its earliest use to the present time. It treats alcohol and the "other drugs," but deals more with alcohol since this has been the major drug of use. It outlines the many problems associated with use and abuse, the legislation passed as an effort to control these and finally, the effect of the Uniform Alcoholism Act of 1970. This was followed by changing public attitudes toward alcohol and the development of many effective treatment programs, while the "other drug" problem remains unresolved in spite of a similar attempt through the Uniform Controlled Substances Act of 1970.

### THE ALCOHOL EXPERIENCE

The first alcoholic beverage in recorded history was Mead, made from honey. Our best estimates suggests that this was about 8000 B.C. and was, therefore, used by paleolithic man. Evidence from cave drawings, found in Egypt, depicts the brewing of beer and berry wine as early as 6400 B.C. Very likely rice and millet wine were in use in China about the same time. Grape wines date from about 300-400 B.C. In Arabia, about 800 A.D., distilled beverages were discovered and the term "alcohol" first appeared. This was Arabic for "finely divided spirits." The word "spirits" refers to the part of the wine distilled, hence the "essence" of the wine!

Historic evidence of attempts at regulation and the establishment of penalties for drunkenness as well as educational efforts directed toward the harmful effects indicate that there were problems connected with the use of alcohol almost since the dawn of man.

England passed a law in 1327 to limit the number of establishments that could sell alcohol. The first licensing law passed in 1494. Neither of these had any effect on consumption. In 1568 the law was liberalized and anyone could distill and sell alcohol--almost everyone did! With the Industrial Revolution, urbanization, and low cost widely available alcohol, consumption and public drunkenness soared! This eventually led to the Temperance Movement in England which began about 1825.

In 1839, a well-enforced Act placed penalties on selling alcohol to those under 16 and established closing

hours for Saturdays and Sundays, the days of greatest drunkenness, and public drinking began to decline.

In the United States, distilled alcohol arrived with the colonists in Virginia in 1607. Alcohol abuse appeared to be a continual problem for the colonists, and within 12 years, the first American Drug Law was passed: the first abuse drew a private reprimand from a minister; the second abuse, a public reprimand; the third abuse, 12 hours in the stocks and a fine.

The puritans urged temperance to little avail. In Massachusetts Bay Colony, brewing was the third largest industry--drunkenness was punishable by whipping, fines or the stocks. The tradition of "opposing" policies in this country began very early--supporting a developing and prosperous industry while simultaneously invoking penalties against the use of its product--a practice consistent until only recently.

Laws were passed in Maryland in 1642, Connecticut in 1650 and 1659, Virginia in 1664, prohibiting ministers from drinking to excess. One hundred years later, in Virginia (1760), another law was passed prohibiting ministers from "drinking to excess and inciting riot."

Drinking continued to increase in this country but did not reach the proportions achieved in England probably because of the expanding frontier and lack of urbanization. However, as in England, society changed and heavy drinking increased and, early in the 18th century, with each

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The "drug problem" needs to be taken out of the correctional system and placed squarely in the lap of the health care system!

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new public drunkard there appeared two or three temperance workers. The first Prohibition Law was passed in Maine in 1851. Between then and 1855, 13 states enacted such laws. By 1868, nine states had repealed them.

National sentiment was finally aroused! As a result the National Prohibition Party was formed in 1869, the Women's Christian Temperance Union (WCTU) in 1874 and the Anti-Saloon League in 1895. In 1907 the final state prohibition movement began.

Almost as an aside, not apparently related to the alcohol prohibition movement, the Harrison Narcotic Act of 1914 was passed, mainly to control the use of opium, but also to outlaw the sale of other narcotic drugs.

In August of 1917, the Senate adopted the Volstead Resolution which submitted the Prohibition Amendment to the States. In January, 1919, Nebraska was the 36th

State to ratify the Amendment. Prohibition reduced the consumption of alcohol for a few years but, because of illegal production and perhaps because temperance fervor waned, it approached pre-prohibition levels. The only remarkable accomplishment of Prohibition was the formation of criminal organizations known as "syndicates" and the associated violence which has been accurately depicted in the TV series the "Untouchables."

When it became apparent that Prohibition was a failure, it was repealed (1930). Thereafter, per capita consumption of alcohol steadily increased and no significant inroads were made in its control until very recently.

Alcoholics Anonymous (AA), a self-help group founded in 1935, can truly be said to have been the most successful in this era. AA introduced the "disease concept" by defining alcoholism as an "allergy of the body" and "an obsession of the mind." The American Medical Association came to regard it as a disease in 1956 and published the Manual on Alcoholism in 1957. This has been revised several times since.

The Congress finally realized the gravity of the problem as alcoholism steadily gained in the rank of causes of death. The "Comprehensive Alcohol Abuse and Alcoholism Prevention and Rehabilitation Act of 1970" was passed, more simply known as the "Uniform Alcoholism Act of 1970." It established the National Institute of Alcohol Abuse and Alcoholism within the National Institute of Mental Health.

The ACT provided funding for research and for the development of treatment programs. This literally took the problem out of the correctional system and placed it squarely in the lap of the health care system. NIAAA launched an ambitious research program which culminated in the "Criteria for the Diagnosis of Alcoholism," and the "disease concept" was firmly established. Public education programs followed, and treatment programs sprang up all over the country.

My own experience certainly reflects the effect of this change in emphasis. I am on the scene as it were. I have been treating patients with alcohol withdrawal in Kodiak since 1955 at which time delirium tremens was quite common. I saw the same patients return again and again in spite of the fact that they were clearly informed that they were abusing themselves and would eventually die as a result. No one was willing to admit that they had a problem. They did not seem able to grasp the seriousness of it and, in spite of my efforts, few were able to do anything about it.

The NCAAA did a monumental job of educating the public about alcohol addiction and we in Kodiak, like many others, formed an Alcoholism Council and started a treatment program called the "Hope House." Since then, the scene has changed markedly. When I discuss alcoholism with my patients today, they listen, and are able to take me seriously, for they are no longer ashamed since they

have a disease and everyone knows that diseases need treatment.

It was said in the old days by AA that people had to "hit bottom" before they could admit they had a problem and that was true. It is no longer true today. People are referring themselves or being referred into treatment because they know about it, and they are getting well. As evidence of this fact, delirium tremens is rare today because it only occurs in late stage alcoholism, and the disease does not progress this far anymore. Furthermore, the average age of clients in the Kodiak treatment program has dropped from the 40s to the 20s, indicating that people are getting into treatment earlier. This is a fair representation of programs all over the country.

## THE "OTHER DRUG" EXPERIENCE

What about the "other drug" scene? The Encyclopedia Britannica (1979) states that "The United States is perhaps the nation most preoccupied with drug control, and it is largely "Americanized" countries that have made narcotics regulation a matter of public policy." This is certainly more true today than in 1979. The principle U.S. legislation has been the Harrison Narcotics Act of 1914, the Opium Poppy Control Act of 1942, the Narcotic Drug Control Act of 1956, the Drug Abuse Amendment of 1965, all of which emphasized control of drug use by punishment.

In 1970, the "drug problem" becoming more apparent, the President appointed the Prettyman Commission to look into the matter and to propose legislation that might allow us to do something about it. Thus was born the "Uniformed Controlled Substances Act of 1970," which was passed in the same spirit as its sister act on alcoholism, emphasizing the need for research and treatment of addiction. This legislation was unique in that it emphasized rehabilitation (treatment) for those who were engaged (by law) in criminal behavior. Funds were provided, research was begun, some treatment programs were started, but progress in management of the problem was (and is) hampered by the persistence of an attitude that very much resembles that toward alcohol abuse and addiction at the beginning of the century.

## WHERE IS THE PROBLEM?

It seems to me that the problem lies with the public attitude toward the "other drugs." As noted, it resembles the attitude toward alcohol at the beginning of the century. Our legislation having failed, we are now engaged in a great "Drug War" which is a war against the syndicates involved in the illegal production and sale of the substances. It so closely resembles the "Alcohol War" of the 1920s (on a much larger scale) that I am at



a loss to explain why we think it will work. History tells us that this "War" can only produce violence and will little influence the drug problem. Indeed, instead of decreasing the supply, the "War" increases the cost of production, the price of the product and the profit! Remember that the profit is not taxable! Remember also that the cost to the addict leads to robbery in order to support the addiction. The "War" is complicating the drug problem.

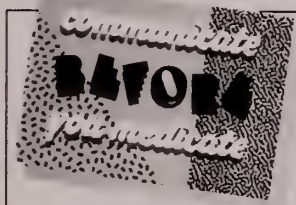
In Alaska, we are no exception. We revised our Criminal Code in the early 1980s, making it more punitive, possibly because we are such an unruly bunch. In 1983, we revised our Controlled Substances Act to "bring it into conformity with the Federal Act." What we did was bring it into conformity with our new criminal code and created a much more punitive law with little mention of rehabilitation--diametrically opposite to the intent of the Federal Act!

## SUMMARY

It is clear that, in the first place, our concern about the alcohol problem lead, over time, to many attempts to resolve it by various punitive laws that were ineffective. In desperation we finally instituted national prohibition. Prohibition lead to the formation of criminal syndicates, and this lead to "War." The alcohol problem continued! It takes very little imagination to see the similarity of this to the evolution of our attitudes and behavior with respect to the other drugs, including many attempts to resolve the "problem" by ineffective legislation and, finally, national prohibition which has bred more powerful international syndicates and thus the "War" in which we are now engaged. The drug problem continues!

Where is the drug problem? The problem is the attempted solution! The final step has yet to be taken. The "drug problem" needs to be taken out of the correctional system and placed squarely in the lap of the health care system! Then we can start doing something about it!

R. Holmes Johnson, M.D.  
Holmes Johnson Clinic  
115 Mill Bay Road  
Kodiak, Alaska 99615



For more information, write to:  
National Council on Patient Information  
and Education (NCPiE)  
666 Eleventh Street, NW Suite 810 D  
Washington, DC 20001  
To fax your request—(202) 638-0773

# YOCON<sup>®</sup>

## YOHIMBINE HCl

**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubiaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon<sup>®</sup> is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

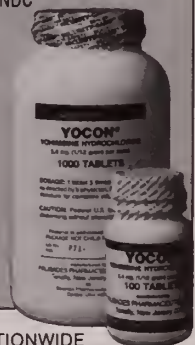
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yocon<sup>®</sup> 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

### References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

Rev. 1/85



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# History of Medicine in Alaska

## Janice Kastella, M.D.

Janice Magnusson was born in Chisholm, Minnesota, in the middle of the Mesabi Range. In the first years of her life, Janice lived in five states — Washington, California, Oregon, Minnesota and Alaska, and attended thirteen schools. In 1947, she came to Alaska attending school which was located in the block where the Performing Arts Center is located. She remembers going briefly to the new Chugach Elementary School on E Street, attending the old high school for two years, and finishing at the recently completed Anchorage High School — now West High. She graduated in 1955 with Richard Reeve, Janet Mohr, Dick Lobdell and Ron Cupples.

During the polio epidemic of 1954, many Anchorage students were stricken, Jan among them. At home with fever and unable to speak above a whisper, Dr. James O'Malley diagnosed polio and referred her to Dr. Charles Chenowith, otolaryngologist, to confirm that it was bulbar polio. More fortunate than some classmates, she recovered.

The advisor for boys was Joe Montgomery; for girls, Rosa Dahl. Janice adds gleefully that the saying at school was, "Joe's boys get Rosa's girls pregnant." Rosa told Janice to go to Stanford. This was the only university she applied to and she was accepted.

At Stanford her biology professor was influential and suggested, "Why not medical school?" At the end of her third year, Jan enrolled at the University of Washington School of Medicine. She decided that medical students were too competitive and after one year dropped out.

Combining her credits from medical school with those from one summer at Stanford in marine biology, she earned a B.S. degree. Also she met Kenneth Kastella, a pilot in the Air Force, and they were married. Subsequently, he was transferred to Kirtland Air Force Base, New Mexico.

Their son, Keith, was born in Albuquerque. Keith is now a theoretical physicist and Janice has two grandchildren.

Janice worked as a laboratory technician at the Loveless Clinic. However, after three years in New Mexico, Ken resigned from the Air Force. They went to Seattle where he went to graduate school in electrical engineering

and physiology which made him a bio-engineer and researcher.

Jan worked at an endocrinology lab. She felt that to further her career she needed an advanced degree. After a hiatus of ten years, she decided to go back to medical school. She went to a neurologist at the University and asked what her chances were. He remarked that it was too bad she had not asked last week when the University was selecting alternates. Since the problem would be the cadaver table, he suggested that she wait and see if someone dropped out.

Janice decided to audit. She went to biochemistry at 7:30 and anatomy at 8:30, then she worked a full day in the endocrinology lab.

About Christmas time, someone dropped out. The weekend before starting was difficult. Her father-in-law appeared for a visit and her son broke his leg. She began with the final exams for the fall course work.

She became a teaching assistant in anatomy for the nursing school and found this helped her to relearn. By attending school during summers, she completed medical school in 36 months graduating AOA in January 1971.

Keith, age eight, with a parent in graduate school and another in medical school, wondered if a "D" in elementary school would keep him out of college.

After acquiring a PhD. and a M.D. the Kastellas returned to the University of New Mexico where Ken taught and Janice trained. She had a rotating internship, followed by three years of neurology. She had picked neurology in high school when she found herself interested in a cross between biology and psychology.

In January 1975, Janice moved to Alaska where she joined the Alaska Clinic. She started by seeing thirteen new patients her first day. She finds neurology a controlling discipline because often she has been the only one. In 1978 Tom Feller died in a kayak accident and Shirley Fraser retired temporarily because her three sons were in high school. For time off Jan found that she had to leave town.

She notes that in oncology and neurology the specialist faces devastation. The pleasure for the

(continued on page 160)

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Multiple sclerosis is a common neurological disease in Alaska. Inexplicably, there are twenty times the number of cases in the North as in the South.

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# GLIMPSES OF ALASKAN MEDICAL HISTORY

Edited by Robert Fortune, M.D.

## VACCINATION, THE TLINGIT, AND A MISSIONARY'S FAITH (1835-36)

In the late fall of 1835 smallpox was introduced into southeastern Alaska, whence over the next few years it spread with deadly efficiency to Prince William Sound, Cook Inlet, Kodiak Island, the Aleutians, and the Yukon-Kuskokwim Delta north to Unalakleet and Nulato. The Russian-American Company immediately took measures to vaccinate the Natives of all these regions. By and large the Aleuts accepted the vaccine and were spared a high mortality; the Koniag and Yupik Eskimos, on the other hand, were understandably suspicious of the Russians' motives and suffered heavy loss of life. The Tlingit (or Koloshi) also resisted fiercely, at least at first, but were finally persuaded to accept the vaccine by its obvious effectiveness in preventing the disease.

Father Veniaminov and his family had arrived in Sitka in August 1834, just after completion of his immensely successful ten-year missionary effort in the Aleutians. In comparison to the Aleuts, with whom he had forged lasting bonds of friendship, Veniaminov found the Tlingit reserved and even overtly hostile to his preliminary ministrations. During his first year at the capital, the press of other duties prevented him from devoting much time to visiting the Tlingit village, which was just as well, he later wrote, because the outbreak of smallpox might then have been in their minds a direct consequence of his preaching.

As events unexpectedly unfolded, many Tlingit quickly saw the value of vaccination and gained a new respect for things Russian, including medicine and the Orthodox faith. Father Veniaminov was able to take full advantage of the tragic circumstances of the epidemic to bring the Christian message to many who were suffering the heavy burden of disease, despair, and death. He saw it as a turning point in his efforts to convert the people to his faith.

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"In a period of two months, this terrible visitor killed 300 Koloshi of those living near the fort . . . It first appeared in December [1835], on a Creole boy living near the fort, then, without any seeming connection, it began to attack Creoles and Aleuty. But because of the care and attention given to those who fell ill (more than 100 persons), only 14 died, and those were almost all old people. The pox touched no Russians, and only one Finn, who has, by the way, recovered. But once it reached the

Koloshi, it raged in full force, killing from 8 to 12 persons a day.<sup>(1)</sup>"

"[I]f we had tried only three years ago, in 1834, to convince the Koloshi of the benefit of inoculation against smallpox, all would have been in vain. But in 1835, smallpox came, reducing their number by half; . . . no matter how contagious and no matter how the Koloshi wished that it would strike the Russians, [the disease] did not touch a single Russian. If at any time it had entered someone's head to inoculate a Kolosha against smallpox by force, I am absolutely convinced that such a Kolosha would have cut out, torn out, the spot [on his body] where the smallpox inoculation was done. But having as a matter of course exhausted all their own remedies against smallpox, such as shamanistic seances, use of ice and snow in the course of illness, and so on, Koloshi men and women of their own free will came to the Sitka physician and have been doing so ever since, asking him to inoculate them and their children against smallpox. Many came for this purpose from far away places. In the course of a single year over 250 persons among the Koloshi have been thus inoculated against smallpox. This is evidence that the Koloshi have changed their notions about the Russians and their knowledge and even about their faith in shamanism and shamans—at least in this respect. If they have now become convinced in the benefits of smallpox inoculation, they will (not all at once of course) but doubtlessly come to believe [us] in other matters.

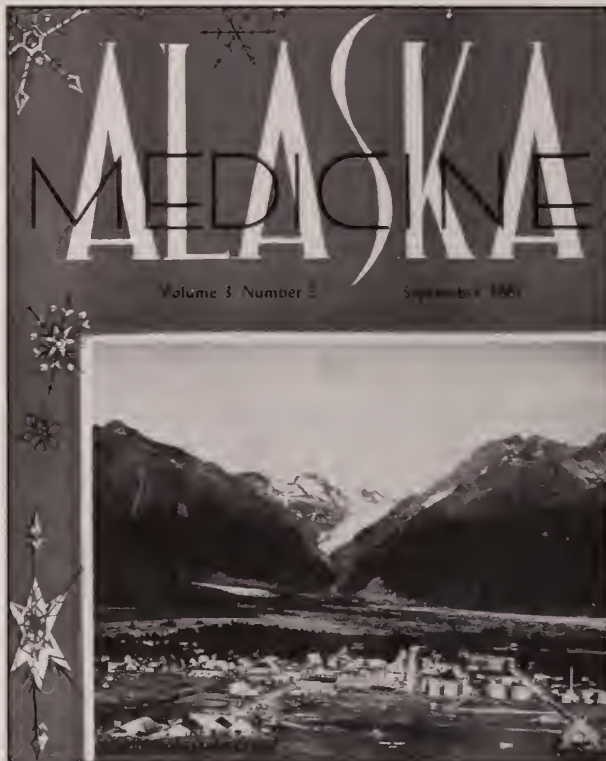
"So one must, in all fairness, consider the appearance of the smallpox and the year 1835 the most important epoch in Koloshi history. This period is the borderline, the verge, at which the dominance of coarse ignorance and savagery ended and the dawn of their enlightenment and humaneness has begun.<sup>(2)</sup>"

### REFERENCES

1. Veniaminov, Ivan. Letter from Veniaminov to F. P. Litke, April 24, 1836. *In: The condition of the Orthodox Church in Russian America. Pacific Northwest Quarterly* 63:41-54, 1972.
2. *Notes on the islands of the Unalashka District*. Trans. by Lydia T. Black and R. H. Geoghegan. Edited by Richard A. Pierce. Kingston, Ontario: Limestone Press, 1984, pp. 434-35.

# From Out of the Past — Over 30 Years Ago

by Gloria K. Park, M.D.



Volume 3, No. 3 Cover Valdez September 1961



Volume 3, No. 4 Cover December 1961

## SCIENTIFIC ARTICLES

- [reflected typical Alaskan topics]
- “Small Bowel Tumors” by Nathaniel Wilson, M.D. and James Wilson, M.D.
- “A Clinic to Kodiak” by Milo Fritz, M.D.
- “Kuskokwim Medicine” by William J. Mills Jr., M.D. and Don Kettelkamp, M.D.
- “Giardiosis in Alaska” by Louise Ormond, M.D.
- “Bone and Joint Tuberculosis” by Edward Voke, M.D.

## EDITORIALS AND REPORTS

Elizabeth Tower, M.D. regarding the opening of Harborview on September 15, 1961 with the arrival of 50 patients from Morningside Hospital in Oregon.

Paul Winsor, Commissioner of Health reported on the overall organization of the Department of Health and Welfare based on the State Organization Act of 1959 by Alaska’s first State Legislature.

James Cheatham, M.D. on the State of Alaska’s Mental Health program - fraught with “governmental inexperience and legislative capriciousness.”



Joseph Ribar, M.D. (President’s Page) on the role of the Alaskan physician in “medico-politics” and the “physician image” of the 1960s.

Robert Wilkins, M.D. regarding ASMA officers, J. Ray Langdon as Physician of the Year, the development of the Alaska Chapter of the American Academy of General Practice with 21 members and the raise in dues, i.e. AMA \$35.00 and ASMA \$75.00.

## MUKTUK MORSELS

Dr. Milo Fritz plans to enter the Republican primary as a candidate for Governor of Alaska, 1962.

Capt. John J. Smith has joined the Elmendorf Hospital staff.

Dr. Stan Jones transferred from Mt. Edgecumbe to Barrow.



Dr. Bill Edwards is the new Medical Officer in Charge (MOC) at Bethel.

Dr. Ward Hurlburt is the new MOC at Kanakanak.

The new MOC at Tanana is Dr. Bill James.

Joining the Anchorage Native Hospital staff are Drs. Ed Voke and Dave Dolese.

The new 50 bed hospital at Kotzebue was dedicated November 30, 1961.

Dr. Gloria Park somehow hit nation-wide newspapers for relaying instructions through the FAA tower to bush pilot Don Sheldon who was delivering a baby at 4,000 ft. over Talkeetna while also flying the airplane. [Mother and baby did fine.]

Bethel's mayor, Dr. Harriet Jackson married Don Schirmer, White Alice Project manager.

Dr. Jean Persons is leaving Bethel.

New physicians in Cordova are Dr. Jean Arnold and Dr. John Chapman.

Fairbanks school board applicants are Drs. Storrs and Tatum.

Retiring from the Fairbanks school board is Dr. Lundquist.

Drs. Paul Isaak and Elmer Gaede are opening the Central Peninsula Clinic in the Kenai-Soldotna area.

Dr. Jack Fenger is building an office in Homer.

Dr. Joseph Reiderer who was born in Ketchikan has joined Dr. Joseph Rude.

At least a dozen babies were born to Alaskan physicians with two weighing in at only 4 pounds each.

Soon after his arrival in Juneau, Dr. Walter Totten and his family were marooned on an island by a storm after getting lost in an open boat. They were rescued by the Coast Guard. The children were greatly impressed by the barbecued herring bait.

Another harrowing experience was had by Dr. John Brown of Cordova and his two sons when their plane crashed in Lake Eyak. No one was injured but all were in the water 10-15 minutes before rescue.

## PHYSICIANS IN PRIVATE PRACTICE IN ALASKA - 1961

(103 of the 121 were members of the Alaska State Medical Association)

### PHYSICIANS IN PRIVATE PRACTICE IN ALASKA

Listed in cities in order of population as determined by 1960 Census

#### ANCHORAGE-SPENARO

Population—54,753  
Hospital Beds—125 (Providence Hospital-Catholic)

BEIRNE, MICHAEL F.—Pathology  
207 E. Northern Lights

BILLINGS, ROBERT P.—General Practice  
207 E. Northern Lights

CATES, VERNON A.—Gen. Practice & Obstetrics  
825 L Street, Doctors Clinic

CAUGHAN, WILLIAM R.—General Practice  
Box 4848, Spensard Medical Clinic

CHAO, C. M.—Anesthesiology  
1142 12th Avenue

CHEATHAM, JAMES S.—Psychiatry  
103 L Street

CHENOWETH, C. E.—EENT  
MI McKInley Bldg

CRAWFORD, GLENN B.—General Practice  
593 W. Fireweed Lane

DRAKE, OUANE L.—Radiology  
207 E. Northern Lights Blvd

FISH, WINTHROP—Internal Medicine  
301 L Street

FITZPATRICK, JAMES J.—Internal Medicine  
718 K Street, Anchorage Med & Surg Clinic

FRITZ, MILO H.—EENT  
1027 4th Avenue

HALE, GEORGE E.—General Surgery  
301 L Street

HARRELL, R. E.—General Practice  
620 E. 14th Avenue

HILLMAN, FREDERICK J.—General Surgery  
207 E. Northern Lights Blvd

HOMAY, ALAN—Clinical Laboratory Medicine  
207 E. Northern Lights Blvd

IVY, WILLIAM H.—Obstetrics and Gynecology  
825 L Street, Doctors Clinic

JOHNSON, CALVIN T.—General Practice  
Box 4848, Spensard Medical Clinic

KETTELKAMP, DONALD B.—Orthopedic Surg  
142 K Street

KIESTER, THOMAS E.—Orthopedic Surgery  
825 L Street, Doctors Clinic

KOENIGER, PETER J.—Obstetrics & Gynecology  
825 L Street

LANGDON, J. RAY—Psychiatry  
207 E. Northern Lights Blvd

LANGSTON, OON VAL—Pediatrics  
207 E. Northern Lights Blvd

LEONC, RUDY H.—General Practice  
207 E. Northern Lights Blvd

MADDOCK, WILLIAM O.—Internal Medicine  
825 L Street, Doctors Clinic

MARCEUS, LESTER H.—General Surgery  
825 L Street, Doctors Clinic

MARTIN, ASA L.—General Practice  
718 K Street, Anchorage Med & Surg Clinic

MATTHEWS, WENDELL C.—FAA Contract  
% FAA, Box 440 Physician

MEAO, PERRY A.—Neurosurgery  
825 L Street

MILLS, WILLIAM J., JR.—Orthopedic Surgery  
742 K Street

MONTEGORENY, FRANK A.—Urology  
207 E. Northern Lights Blvd

MORGAN, ROYCE H.—General Practice  
301 L Street

O'MALLEY, JAMES E.—General Practice  
329 J Street

ORMOND, LOUISE—Internal Medicine  
207 E. Northern Lights Blvd

PHILLIPS, FRANCIS L.—Chest Diseases  
2220 E. Northern Lights Blvd

RABOURN, WILLIAM O.—General Practice  
Box 1146

RENN, A. CLAIRE—Obstetrics & Gynecology  
825 L Street

ROMIC, HOWARD G.—Obstetrics & Gynecology  
718 K Street, Anchorage Med & Surg Clinic

ST JOHN, CHARLES F.—General Practice  
207 E. Northern Lights Blvd

SEOWICK, JACK D.—General Surgery  
718 K Street, Anchorage Med & Surgical Clinic

SHELTON, J. H.—Ophthalmology  
825 L Street

SHOFF, MAILON J.—EENT  
825 L Street

SHOHL, ROSALIE—Anesthesiology  
207 E. Northern Lights Blvd

SHOHL, THEODORE—General Surgery  
207 E. Northern Lights Blvd

SYDNAM, NANCY E.—General Practice  
140 E. 6th Avenue

TOWER, ELIZABETH A.—General Practice  
610 2nd Avenue

TOWER, JOHN C.—Pediatrics  
825 L Street

WALKOWSKI, A. S.—General Practice  
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WHALEY, HELEN S.—Pediatrics  
825 L Street

WHALEY, ROBERT O.—Internal Medicine  
825 L Street, Doctors Clinic

WICHMAN, GEORGE B.—Orthopedic Surgery  
718 K Street, Anchorage Med & Surg Clinic

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529 J Street

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#### FAIRBANKS

Population—13,311  
Hospital Beds—70 (St Joseph's Hospital-Catholic)

BARTKO, HAROLD—General Surgery  
411 4th Ave., Doctors Med & Surg Clinic

BOSWELL, CARL A.—Internal Medicine  
Co-op Bldg, 533 2nd Avenue

BUGH, C. WILLIAM—Gen. Practice & Obstetrics  
Tire Center, 1235 Airport Way

OUNLAP, LAWRENCE I.—Obstetrics, Pediatrics  
General Practice

Box 1382 Tanana Valley Medical-Surg Group

EVANS, RAYMOND D.—General Practice  
Box 1330, Fairbanks Med & Surg Clinic

HAGGLAND, PAUL B.—Surgery & Orthopedics  
Box 1330, Fairbanks Med & Surg Clinic

LEIH, GEORGE G., T.—Obstetrics, Pediatrics  
General Practice

Box 1330, Fairbanks Med & Surg Clinic

LUNQUIST, JAMES A.—Surgery & Gen. Pract  
Box 1382, Tanana Valley Med-Surg Group

MARROW, CHARLES T.—Internal Medicine &  
General Practice

Box 1330, Fairbanks Med & Surg Clinic

RIBAR, JOSEPH M.—Obstetrics, Pediatrics  
Box 1330, Fairbanks Med & Surg Clinic

SCHAIBLE, ARTHUR J.—Surgery & Gynecology  
General Practice

Box 1330, Fairbanks Med & Surg Clinic

STORRS, HENRY G.—Surgery & Gynecology  
529 6th Avenue

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WESTON JOHN I.—Surgery, Obstetrics and  
Gynecology

411 4th Ave., Doctors Med & Surg Clinic

#### JUNEAU-DOUGLAS

Population—7,839  
Hospital Beds—79 (St Ann's Hospital-Catholic)

AKIYAMA, HENRY I.—Internal Medicine  
188 S. Franklin Street, Juneau Clinic

CARTER, C. C.—General Surgery  
188 S. Franklin Street, Juneau Clinic

GIBSON, JACK W.—Pediatrics  
188 S. Franklin Street, Juneau Clinic

LESH, JACK K.—General Practice & Obstetrics  
Box 2627, Doctors Clinic

REIOERER, JOSEPH O.—General Practice  
Box 2627, Doctors Clinic

RUDE, JOSEPH O.—General Practice  
Box 2627, Doctors Clinic

SMALLEY, ROBERT S.—General Surgery  
188 S. Franklin Street, Juneau Clinic

TOTTEN, WALTER S.—Internal Medicine  
188 S. Franklin Street, Juneau Clinic

WHITEHEAD, W. H.—Gen. Pract & Obstetrics  
188 S. Franklin Street, Juneau Clinic

WILCO, HENRY—Internal Medicine  
188 S. Franklin St., Juneau Clinic

#### KETCHIKAN

Population—6,483  
Hospital Beds—45 (Ketchikan Gen Hosp-Catholic)

CARR, RALPH W.—General Practice  
Box 359

#### CRAMER, DWIGHT L.—General Practice

Box 347  
SALAZAR, LOUIS—General Practice  
Box 359  
SMITH, PHYLLIS E.—Gen. Pract & Obstetrics  
Box 86  
TURNER, JOHN W.—General Practice  
338 Main Street  
WILSON, A. W.—General Practice  
Box 1989  
WILSON, JAMES A.—General Surgery  
Box 1989  
WINTON, ERVIN O.—General Practice  
2433 First Avenue

#### SITKA

Population—3,237  
Hospital Beds—23 (Sitka Community Hosp-City)

MOORE, PHILIP H.—Orthopedic Surgery  
Box 810

MOORE, TILLMAN, JR.—General Surgery  
Box 1000

SHULER, ROBERT H.—Internal Medicine  
Box 438

SPENCER, EDWARD O.—General Practice  
Box 1048

#### KOOIAK

Population—2,628  
Hospital Beds—18 (Griffin Memorial Hosp-Catholic)

JOHNSON, A. HOLMES—Gen. Pract., Semi-Ret  
Box 766

JOHNSON, R. HOLMES—General Practice  
Box 788

KEERS, J. BRUCE—General Practice  
Box 766

#### NOME

Population—2,316  
Hospital Beds—29 (Maynard McDougall Memorial  
Hospital-Methodist)

BARROW, JOHN A. III—General Practice  
% Hospital

PALMER, WASILLA  
Population—1,852  
Hospital Beds—25 (Valley Presbyterian Hospital)

BAILEY, CLARENCE C.—General Practice  
Box 247

COLEBERG, ARTHUR J.—General Practice  
Box 1807

HUME, VINCENT—General Practice  
Box 1853

#### SEWARD

Population—1,801  
Hospital Beds—30 (Seward General Hospital-Com.  
munity Association)

ORISHER, JOSEPH B.—General Practice  
Box 247

CENTLES, ERNEST W.—General Practice  
Box 185

(continued from page 156)

neurologist is in diagnosis. The management of epilepsy and migraine can be rewarding since with the proper attention they can be controlled. The social stigma of epilepsy is overwhelming — even limiting a patient to one seizure a year is a failure. Skilled prescribing of appropriate drugs allows patients to go three to five years without seizures. She finds epilepsy a fascinating set of diseases. With migraine, two or three headaches a week can be converted to two or three a year.

Multiple sclerosis is a common neurological disease in Alaska. Inexplicably, There are twenty times the number of cases in the North as in the South.

In 1976 she bought a house on Fordham in College Village. Several years later, her next door neighbors and she decided to trade houses which they did, hiring four young men to exchange furniture over the weekend.

She met Bill Hardie when an executive at Alyeska Pipeline “died.” He had been taken from a local restaurant by the paramedics to Community Hospital. Gary Archer in resuscitating him discovered a piece of meat in his throat. The patient was left with temporary hypoxic brain damage and began having seizures. Jan was called to stabilize them. Bill Hardie who was the pipeline doctor came down from Fairbanks. Jan knew of a new drug, Klonopin, which was useful in controlling this type of seizure. She points out that neurology is a small world and the specialists know all the whos and whats. She telephoned a neurologist in Seattle who

six hours later arrived drug in hand. Since the drug was in pill form, the Seattle doctor asked for a mortar and pestle and then put the ground up drug down the nasogastric tube. Since they knew it would take two hours for the drug to work, the three went out to dinner. They returned to find the patient no longer seizing. He is alive and well today.

The next year Bill invited Janice to go to Prudhoe as a consultant for Alyeska Pipeline. They flew to Deadhorse and then went down the haul road by ambulance from pump station to pump station to talk to the paramedics. At Happy Valley, five miles north of the Yukon River, there was a snowstorm in the middle of June. There was also a young obese pipeliner who had decided to lose weight too rapidly. He was suffering from crushing chest pains and had a dangerous bigeminal rhythm. Although as a neurologist, Janice wasn't sure of the proper dose, she administered lidocaine intravenously. Air evacuation was arranged to Fairbanks. The pilot and the physician were both women. The patient reverted to normal sinus rhythm en route.

Janice Magnusson Kastella and Philip William Hardie were married in January 1992.

Gwynneth Gminder Wilson  
Anchorage Medical Society Auxiliary

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## Letters to the Editor

### POLICY FOR ACTS OF GOD

Dear Editor:

We as physicians should be held liable for true acts of negligence or willful harm to a patient. In those incidences where patients wish additional coverage for things which, to me, are more akin to acts of God, they should buy a supplemental policy. The events I particularly had in mind would be things such as postoperative infections, falls out of bed, breakage of prostheses or appliances and things of that like. If, indeed, a patient wishes supplemental coverage for these acts of God, then they should be able to buy such coverage on a case by case basis and perhaps the hospital could sell them a supplemental policy upon admission. This would allow physicians to be responsible for negligence in the strict sense of the word and would not continue to impose upon us the burden to insure any and all comers for all the other untoward events which might occur in their life while they are under our care.

Richard W. Garner, M.D.  
3546 LaTouche Street  
Anchorage, Alaska 99508

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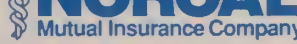


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\*The recommended starting dose for Calan SR is 180 mg once daily. Dose titration will be required in some patients to achieve blood pressure control. A lower initial starting dosage of 120 mg/day may be warranted in some patients (eg, the elderly, patients of small stature). Dosages above 240 mg daily should be administered in divided doses. Calan SR should be administered with food.

†Constipation, which is easily managed in most patients, is the most commonly reported side effect of Calan SR.

‡Verapamil should be administered cautiously to patients with impaired renal function.

### BRIEF SUMMARY

**Contraindications:** Severe LV dysfunction (see *Warnings*), hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block (if no pacemaker is present), atrial flutter/fibrillation with an accessory bypass tract (eg, WPW or LGL syndromes), hypersensitivity to verapamil.

**Warnings:** Verapamil should be avoided in patients with severe LV dysfunction (eg, ejection fraction < 30%) or moderate to severe symptoms of cardiac failure and in patients with any degree of ventricular dysfunction if they are receiving a beta-blocker. Control milder heart failure with optimum digitalization and/or diuretics before Calan SR is used. Verapamil may occasionally produce hypotension. Elevations of liver enzymes have been reported. Several cases have been demonstrated to be produced by verapamil. Periodic monitoring of liver function in patients on verapamil is prudent. Some patients with paroxysmal and/or chronic atrial flutter/fibrillation and an accessory AV pathway (eg, WPW or LGL syndromes) have developed an increased antegrade conduction across the accessory pathway bypassing the AV node, producing a very rapid ventricular response or ventricular fibrillation after receiving I.V. verapamil (or digitalis). Because of this risk, oral verapamil is contraindicated in such patients. AV block may occur (2nd- or 3rd-degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with verapamil.

**Precautions:** Verapamil should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Verapamil may decrease neuromuscular transmission in patients with Duchenne's muscular dystrophy and may prolong recovery from the neuromuscular blocking agent vecuronium. It may be necessary to decrease verapamil dosage in patients with attenuated neuromuscular transmission. Combined therapy with beta-adrenergic blockers and verapamil may result in additive negative effects on heart rate, atrioventricular conduction and/or cardiac contractility; there have been reports of excessive bradycardia and AV block, including complete heart block. The risks of such combined therapy may outweigh the benefits. The combination should be used only with caution and close monitoring. Decreased metoprolol and propranolol clearance may occur when either drug is administered concomitantly with verapamil. A variable effect has been seen with combined use of atenolol. Chronic verapamil treatment can increase serum digoxin levels by 50% to 75% during the first week of therapy, which can result in digitalis toxicity. In patients with hepatic cirrhosis, verapamil may reduce total body clearance and extrarenal clearance of digitoxin. The digoxin dose should be reduced when verapamil is given, and the patient carefully monitored. Verapamil will usually have an additive effect in patients receiving blood-pressure-lowering agents.

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data on file, Searle. 2. Edmonds D, Wurth JP, Baumgart P, et al. monitoring of blood pressure during calcium antagonist treatment. *Hypertension*. 1987;9:100-103. 3. Edmonds D, Weinstein A, Laragh SH, eds. *Hypertension—the Next Decade*: New York, NY: Churchill Livingstone; 1987:94-100. 4. Midtboe K. Long-term verapamil therapy on serum lipids and other metabolic parameters. *Cardiol*. 1990;66:131-151. 5. Fagher B, Henningsen N, Hutthén L. Side and renal effects of enalapril and slow-release verapamil. *Eur J Clin Pharmacol*. 1990;39(suppl 1):S41-S43. 6. Sessler FH, Garavaglia CE, et al. Cardiovascular effects of verapamil in patients with essential hypertension. *Circulation*. 1987;75:1030-1034. 7. Lauve O, Hals O. No metabolic side effects of long-term treatment with verapamil in hypertension. *Angiology*. 1988;39:1025-1029.

Disopyramide should not be given within 48 hours before or 24 hours after verapamil administration. Concomitant use of flecainide and verapamil may have additive effects on myocardial contractility, AV conduction, and repolarization. Combined verapamil and quinidine therapy in patients with hypertrophic cardiomyopathy should be avoided, since significant hypotension may result. Concomitant use of lithium and verapamil may result in an increased sensitivity to lithium (neurotoxicity), with either no change or an increase in serum lithium levels; however, it may also result in a lowering of serum lithium levels. Patients receiving both drugs must be monitored carefully. Verapamil may increase carbamazepine concentrations during combined use. Rifampin may reduce verapamil bioavailability. Phenobarbital may increase verapamil clearance. Verapamil may increase serum levels of cyclosporin. Verapamil may inhibit the clearance and increase the plasma levels of theophylline. Concomitant use of inhalation anesthetics and calcium antagonists needs careful titration to avoid excessive cardiovascular depression. Verapamil may potentiate the activity of neuromuscular blocking agents (curare-like and depolarizing); dosage reduction may be required. There was no evidence of a carcinogenic potential of verapamil administered to rats for 2 years. A study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. Pregnancy Category C. There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. Verapamil is excreted in breast milk; therefore, nursing should be discontinued during verapamil use.

**Adverse Reactions:** Constipation (7.3%), dizziness (3.3%), nausea (2.7%), hypotension (2.5%), headache (2.2%), edema (1.9%), CHF, pulmonary edema (1.8%), fatigue (1.7%), dyspnea (1.4%), bradycardia: HR < 50/min (1.4%), AV block: total 1°, 2°, 3° (1.2%), 2° and 3° (0.8%), rash (1.2%), flushing (0.6%), elevated liver enzymes, reversible non-obstructive paralytic ileus. The following reactions, reported in 1.0% or less of patients, occurred under conditions where a causal relationship is uncertain: angina pectoris, atrioventricular dissociation, chest pain, claudication, myocardial infarction, palpitations, purpura (vasculitis), syncope, diarrhea, dry mouth, gastrointestinal distress, gingival hyperplasia, ecchymosis or bruising, cerebrovascular accident, confusion, equilibrium disorders, insomnia, muscle cramps, paresthesia, psychotic symptoms, shakiness, somnolence, arthralgia and rash, exanthema, hair loss, hyperkeratosis, macules, sweating, urticaria, Stevens-Johnson syndrome, erythema multiforme, blurred vision, gynecostasia, galactorrhea/hyperprolactinemia, increased urination, spotty menstruation, impotence.

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# ALASKA MEDICINE

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An Update on WAMI in Alaska**

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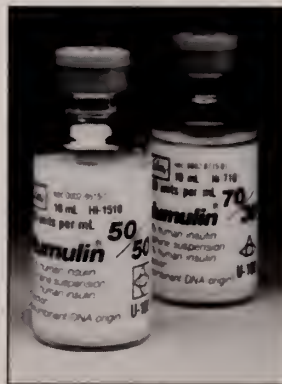
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About the cover: Grace Washington at the village cemetery, Buckland, Alaska.  
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# Increasing Survival of Extremely Low Birthweight Infants in Alaska

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## ABSTRACT

The survival and characteristics of extremely premature infants with a birthweight between 500 and 750 grams, who were treated at Providence Hospital newborn intensive care unit, were reviewed over the years 1987 to 1989. Forty infants were admitted and treated. Survival increased from 21 percent in 1987, 47 percent in 1988 to 82 percent in 1989. Changes in perinatal and neonatal factors over the three years were reviewed and comparisons between survivors and non-survivors were analyzed. Stepwise regression analysis revealed significant increases in the incidence of chorioamnionitis and birthweight over the period. Increased survival was noted even when infants from 1989, who received artificial surfactant, were excluded (survival increased from 21 percent in 1987 to 75 percent in 1989). Recent literature on extremely low birthweight infants, including neurodevelopmental outcome, is reviewed. Survival of extremely low birthweight infants in Alaska is increasing because of multiple changes in obstetrical and pediatric practices.

## INTRODUCTION

It is estimated that less than 0.5 percent of all live births result in infants between 500 and 750 grams. Mortality among these extremely low birthweight (ELBW) infants was as high as 90 percent through the 1970s. However, some authors reported a decline in the mortality between 1950 and 1975<sup>(1)</sup>, while others have reported little recent improvement in survival of ELBW infants<sup>(2)</sup>. We reviewed our experience with ELBW infants admitted to Providence Hospital Newborn Intensive Care Unit (PHNICU) over a three year period, during which we noted an increase in survival and associated factors.

## METHODS

Hospital charts of all ELBW infants and their mothers admitted to PHNICU between January 1, 1987 and

December 31, 1989 were reviewed for clinical data. Mortality data was obtained from the medical record and both mortality and birth statistics were obtained from the State of Alaska Bureau of Vital Statistics. Gestational age was determined by the neonatologist using the Dubowitz scoring method and obstetrical history. The labor and delivery logbook was reviewed for ELBW infants not admitted to the NICU.

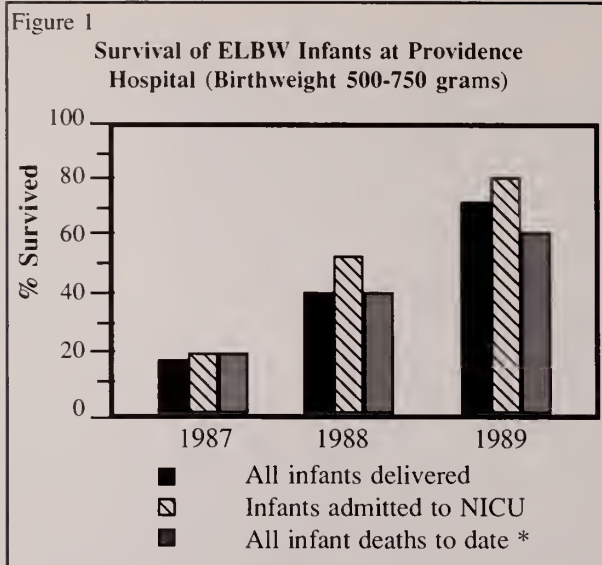
The chi square test of hypothesized proportions was calculated for categorical variables and one way ANOVA was used to compare continuous variable data over the three years. Stepwise regression analysis was used to analyze the importance of key variables in the population.

## RESULTS

Records from the State of Alaska revealed that 58 ELBW infants were born in Alaska during the three years (ELBW infant accounted for 0.17 percent of all births). Twelve infants were not delivered at Providence Hospital or transferred to PHNICU and were presumed to have died. Nineteen of the 58 ELBW infants survived to discharge (overall survival: 33 percent). During the three year period 40 infants were admitted to the PHNICU. The average birthweight was 643.7 grams. Six additional ELBW infants were found in the labor and delivery at Providence Hospital labor and delivery logbook but were not resuscitated (average weight 537.5 grams). Survival rate for the 46 ELBW infants born at Providence Hospital was 41 percent. Survival rates increased over the three years (1987, 20 percent; 1988, 39 percent; 1989, 69 percent). Using only the 40 infants admitted to the PHNICU, survival rates increased significantly (21 percent, 47 percent, 82 percent;  $p < .02$ ). Three infants died after discharge, decreasing the overall survival rates (21 percent, 40 percent, 64 percent) (see figure 1). Only the 40 infants receiving resuscitation and care in the PHNICU are considered in this analysis. Survival was defined as survival to hospital discharge.

Over the three years there was an increase in the following: birthweight, initial pH, pH at 12 hours of life, number of prenatal care days, number of positive blood cultures, percent of infants who received dexamethasone

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after birth, and percent of mothers with maternal chorioamnionitis. Only the changes in pH, bacteremia and chorioamnionitis were statistically significant (Table 1). There was a decrease in the following: the percent of infants with pulmonary interstitial emphysema (PIE), percent of infants with pneumothorax, and highest ventilator peak inspiratory pressure and mean airway pressure. These trends, however, did not reach statistical significance.

Among survivors there was a decrease over the years of the following: PIE, delivery by cesarean section, severe intraventricular hemorrhages (grades III and IV), patent ductus arteriosus (PDA), and number of hospital days (Table 2). Among survivors there was an increase in the diagnosis of chorioamnionitis, number of maternal transports, incidence of bacteremia, and number of infants discharged on home monitors and oxygen; but only the trends of PIE and chorioamnionitis reached statistical significance.

Among non-surviving infants the incidence of chorioamnionitis increased significantly. Fifteen of the 21 non-surviving infants (71 percent) died in the first 24 hours of life; the remaining six died after longer hospital stays (seven to 75 days).

Compared to non-survivors, surviving infants were more likely to receive steroids, have lower mean and peak airway pressures, have open eyelids at birth, have higher pH on admission, have higher pH at 12 hours of life, and have an absence of PDA and maternal evidence of chorioamnionitis (Table 3). There was no statistical difference between survivors and non-survivors with regard to race, sex, mode of delivery, presence of pulmonary interstitial emphysema, pneumothorax, necrotizing enterocolitis, duration of ruptured membranes, birthweight, gestational age, or blood pressure in the first 24 hours of life. Delivery by cesarean section alone did not result in increased survival. However, 56 percent of the 26 infants with vertex presentation who were delivered vaginally survived, compared to only 25 percent of those in breech presentation. Among the 14 infants delivered by cesarean

Table 1.

Perinatal/Postnatal Trends in ELBW infants over the years 1987-1989.

All Infants	1987	1988	1989
# Infants	14	15	11
# Infants survived	3	7	9 *
<b>Perinatal Trends</b>			
Gestational Age	25.1	26.2	25.5
Birthweight	622	643	671
Neonatal Transport	21%	20%	9%
Maternal Transport	21%	27%	27%
Prenatal Care (days)	64	58	100
Duration ROM (hrs)	0.79	0.47	2.36
Maternal Age	27	28	28
Vaginal Delivery	50%	73%	73%
Race (Caucasian/ Native)	64%	53%	63%
Male Sex	50%	53%	45%
Fused Eyelids	79%	67%	45%
Chorioamnionitis	9.1%	75%	100% *
Presentation(Breech)	50%	20%	55%
<b>Postnatal Trends</b>			
1 Min APGAR (H/M/L) <sup>(1)</sup>	10/4/0	12/3/0	6/3/2
5 Min APGAR (H/M/L) <sup>(1)</sup>	12/8/4	6/6/3	1/4/6
First arterial pH	7.13	7.13	7.29 *
First Base Excess	-9.8	-10.3	-6.1
First Mean Blood Pressure	25.2	27.1	24.4
Base Excess at 2 hrs	-6.2	-4.7	-2.7
Mean BP at 2 hrs	29.6	30.3	26.1
pH at 12 hrs	7.11	7.32	7.28 *
Base excess at 12 hrs	-9.6	-4.5	-5.8
Mean BP at 12 hrs	27.4	31.8	33.8
Bacteremia	14%	47%	73% *
Postnatal Steroids	21%	40%	36%
Highest MAP <sup>(2)</sup>	13.6	13	10.9
Highest PIP <sup>(3)</sup>	33	31	27
PIE <sup>(4)</sup>	14%	13%	0
Pneumothorax	36%	33%	18%
Patent Ductus Arteriosus	43%	60%	46%
Necrotizing Enterocolitis	7%	33%	18%

(Note: None of the mothers received antenatal steroids)

<sup>(1)</sup> - APGAR scores:H(high) = 7-10, M(medium) = 4-6, L(low) = 0-3

<sup>(2)</sup> - Mean Airway Pressure

<sup>(3)</sup> - Peak Inspiratory Pressure

<sup>(4)</sup> - Pulmonary Interstitial Emphysema

\* - p < 0.05

section, there was a 50 percent survival in both breech and vertex presentation. More infants were delivered vaginally if presentation was vertex (18/24) than if presentation was breech (8/16).



Table 2.  
Trends among surviving and non-surviving infants

	1987	1988	1989	
Surviving infants only				
Maternal transports	67%	14%	22%	
Vaginal delivery	33%	71%	67%	
Grade 3 or 4 IVH <sup>(1)</sup>	0	14%	11%	
Positive blood culture	33%	86%	89%	
Pulmonary interstitial emphysema	100%	29%	11%	*
Patent ductus arteriosus	0	14%	56%	
Chorioamnionitis	0	83%	100%	*
Duration of ventilation (days)	64	63	50	
Duration of oxygen therapy	86	103	58	
Duration of hospital stay (days)	198	168	113	
Discharged home on oxygen	0	14%	44%	
Non-survivors only				
Prenatal care (days)	62	64	140	
Chorioamnionitis	11%	67%	100%	
Duration of survival (hours)	191	221	97	

<sup>(1)</sup> - Intraventricular hemorrhage

\* - p < 0.05

Table 3.  
Differences between ELBW survivors and non-survivors.

	Non-survivors	Survivors	
Race (Caucasian/Native)	62%/19%	57%/21%	
Male	47%	52%	
Vaginal Delivery	67%	63%	
Grade 3-4 IVH <sup>(1)</sup>	50%	11%	
Highest MAP <sup>(2)</sup>	15.0	10.4	*
Eyelids fused	86%	42%	*
First pH	7.12	7.24	*
pH at 12 hours	7.09	7.35	*
Patent ductus arteriosus	67%	32%	*
Birthweight	625	663	
Base excess at 2 hours	-8.1	-1.3	*
Chorioamnionitis	35%	65%	*
Breech Presentation	48%	32%	
Phosphatidylglycerol present	1 of 10	10 of 15	*

<sup>(1)</sup> - Intraventricular hemorrhage

<sup>(2)</sup> - Mean airway pressure

\* p < 0.05

Eleven variables were subjected to a stepwise regression analysis to predict changes over the three years. Variables included: highest mean airway pressure, sex,

duration of ruptured membranes, presence of fused eyelids at birth, chorioamnionitis, first arterial pH, mean blood pressure at two hours, presence of PIE, duration of prenatal care, birthweight, and use of steroids in the neonatal period. The presence of maternal chorioamnionitis was significantly associated with a change over the three years. Further, knowing the results of the first pH, assisted in explaining an additional 8.5 percent of the variance and was statistically significant. Higher birthweight accounted for an additional 8.0 percent of the variance and was also statistically significant.

Deficiency of endogenous surfactant resulting in the clinical picture of respiratory distress syndrome (RDS) is one of the causes of mortality in ELBW infants. Since the clinical picture of RDS can be confused with other pulmonary diseases such as pneumonia, biochemical evidence of RDS can be obtained from phospholipid analysis of gastric or tracheal secretions. We considered the presence of phosphatidylglycerol (PG) to be the best tool for assessing biochemical evidence for RDS. Gastric and/or tracheal aspirates were obtained at birth in 25 of the 40 ELBW infants. The presence of PG was significantly associated with survival (Table 3). During 1989 artificial surfactant replacement therapy was given to infants weighing 700 grams or more. Three infants in this review received the drug, but after excluding these three infants the trend toward increased survival persisted (1987, 21.4 percent; 1988, 46.7 percent; 1989, 75 percent; p < 0.05).

## DISCUSSION

Survival rates of ELBW infants have varied from 10 percent in the 1970s<sup>(3-5)</sup> to 60-80 percent in the 1980s<sup>(6-10)</sup>. Kitchen reported an increase in the two year survival of infants under 1000 grams from 33.6 percent in 1982 to 45.9 percent in the mid 1980s<sup>(11)</sup>. A review of our more recent data revealed that the survival rate continues to be high (14/18 ELBW infants born from January 1, 1990 through July 1, 1991 have survived to date). The cause of this increase is not clear. Ferrara reported an improvement of survival from 50 percent to 81 percent among infants 600-750 grams given artificial surfactant<sup>(9)</sup>. However, our data suggests that factors other than surfactant may play a role in the change in survival. We observed an increase in the incidence of chorioamnionitis which may have resulted in more rapid lung maturation, although we found no association between the presence of PG and maternal chorioamnionitis. Other possibilities to account for the observed increase in chorioamnionitis includes: 1) women in the earlier years may have developed premature labor for other reasons such as placental abruptions or 2) increased obstetrical surveillance for chorioamnionitis. The trend toward decreasing

peak inspiratory pressures and lower incidence of pulmonary interstitial emphysema and pneumothorax suggests that either the methods of respiratory management have changed or the infants had progressively less severe lung disease. Differences in initial arterial blood gas values and detection of the presence of PDA over the observed three years suggests that the medical management of these infants has changed. We noted an increase in birthweight and a lower incidence of fused eyelids over the three year period, which raises the question of whether the observed increase in survival is due to a sampling error (i.e. the infants were more mature in the later years). It is interesting that a similar trend in gestational age was not seen. Only recently, however, has a tool for estimating gestational age based on physical characteristics of the ELBW infant been developed. This tool was not available during the study period<sup>(12)</sup>.

There is little information on the long term mortality of ELBW infants, but we anticipated a higher rate in this group. SIDS was reported to occur in 2.5 percent of infants with a birthweight under 1000 grams, which is ten times the rate of infants born at full term<sup>(13)</sup>. Half the deaths are related to bronchopulmonary dysplasia<sup>(14,15)</sup>. Three of the 19 infants who survived until discharge died after discharge from the hospital.

Evidence exists that the obstetrical approach to ELBW infant is becoming more aggressive<sup>(16)</sup>. Our data did not suggest that cesarean section improved survival however, vertex presentation resulted in a slightly better but not statistically significantly higher survival rate. Breech presentation has been reported to be a predictor of poor neurologic outcome, with worse outcomes if fetuses were delivered vaginally<sup>(17-22)</sup>. Other studies, however, have not found this association<sup>(23,24)</sup>. Kitchen found more infants to be free of handicaps at two years when the presentation was cephalic rather than breech. However, the mode of delivery did not affect the handicap rate<sup>(25)</sup>. The mode of delivery alone, however, cannot account for all the differences in infant outcome. Fetal monitoring and other fetal evaluation undoubtedly aids the obstetrician in decisions when an aggressive approach is chosen<sup>(26,27)</sup>. Transfer of mothers prior to delivery may improve the chance of survival<sup>(28)</sup>. Our data show a modest trend in increased maternal and decreased neonatal transports. This suggests a more aggressive approach to women in pre-term labor with ELBW fetuses in Alaska, which may have contributed to the decreased mortality of ELBW infants.

We did not study the long term neurological outcome, however studies have suggested handicap rates of about 33% in ELBW infants<sup>(3,29-33)</sup>. Stevenson demonstrated severe handicap in 9 percent and moderate handicap in 36 percent. The majority had delays in motor but not mental development<sup>(8)</sup>. Many physicians have expressed concerns that the increased survival of ELBW infants will

increase the number of handicapped children. However, several authors have found no increase in the percentage of ELBW infants with severe handicaps. The absolute numbers of survivors has increased and therefore the total number of handicapped infants has also increased<sup>(1,34)</sup>.

Recent data from Australia showed an improvement in the developmental scores and a decrease in neurologic disabilities of ELBW infants for the mid 1980s compared to the early 1980s<sup>(11)</sup>. One study demonstrated that 87 percent of low birthweight infants were doing well in secondary schools<sup>(35)</sup>. Saigle reported that the I.Q. measured with the WISC at eight years of age with a history of birthweight less than 1000 grams was 13 points lower than that of control children (103.8 vs 91.1), however, only ten percent of these infants scored less than two standard deviations below the mean<sup>(36)</sup>. Kitchen reported mean I.Q. scores on the WISC-R of 96.6 in ELBW infants and 18 percent of infants scored less than 85 at follow up at age five<sup>(37)</sup>. Neurologic handicaps, apart from developmental and I.Q. testing, suggest mild to moderate neurologic problems in 61 percent of ELBW infants, compared to 23 percent of control children<sup>(38)</sup>.

The cost of ELBW infants is extremely high and increases with decreasing birthweight<sup>(39)</sup>. Hack and Fanaroff found the mean cost per ELBW survivor was \$158,000 with a range of \$72,110 to \$524,000 in 1985<sup>(16)</sup>. Walker reported that cost of infants 600-800 grams varied from \$101,356 to \$362,992<sup>(40)</sup>. Hernandez reported the mean hospital cost estimates for survivors of ELBW infants were between \$111,000 and \$132,000 and the costs of non-survivors were between \$7,808 and \$11,593<sup>(41)</sup>. Schwartz reported that while these infants represented only 0.1 percent of all neonatal patients, they accounted for 5.1 percent of the total costs for all infants<sup>(6)</sup>. The costs after discharge were reported as \$26.80 per month for non-NICU graduates, \$414.20 per month for infants with mild developmental disabilities, and \$650.00 per month for infants with severe disabilities<sup>(42)</sup>.

Several groups have performed cost-benefit analysis of ELBW infants and found the benefit outweighed the costs in infants with birthweights greater than 1000 grams, but not in smaller infants<sup>(43)</sup>. These studies, however, are from the early 1980s and do not reflect the improved survival and longterm outcome from more recent years. Costs and benefits have also been scrutinized in other areas of medicine such as peritoneal dialysis and coronary bypass surgery. These therapies have been found to be comparable to intensive neonatal care<sup>(44)</sup>.

An important question is whether there are strategies to improve outcome of infants and decrease medical costs. Joyce compared NICU care to teenage family planning, supplemental food programs, use of community health centers, maternal care projects, abortion, and prenatal care. He found that while NICU care saved more



lives than other strategies, it was also more costly; and from a cost-benefit ratio analysis prenatal care was much more effective<sup>(45)</sup>. Other authors have similarly found prenatal care to be effective in decreasing the need for NICU care<sup>(46-48)</sup>. The moral and legal problems faced by parents and physicians in the NICU are beyond the scope of this paper and have been summarized elsewhere<sup>(49-54)</sup>. Competing moral and legal interests superimposed on resources allocation questions make simple answers regarding extremely low birthweight infants unlikely.

## SUMMARY

In summary, we found an increase in the survival of ELBW infants admitted to PHNICU. However, no one factor was found to account for the observed change. Although artificial surfactant was begun during this review, it could not account entirely for the change. We speculate that a more optimistic view of the survival of these infants, from both the obstetrical and pediatric perspective, led to multiple changes affecting survival, such as more frequent maternal transfers and improved clinical management. We cannot exclude the possibility that an increase in the incidence of maternal chorioamnionitis or an increase in gestational age over these years accounted for the lower mortality. We were encouraged that the majority of infant deaths occurred in the first few days of life and that most non-survivors did not face prolonged futile life supportive measures. Future prospective studies may clarify which infants are most likely to survive and which infants face long term morbidity and mortality. Such information may help to make better informed decisions about aggressive management. In view of the continued mortality, morbidity, and high cost of ELBW infants, emphasis on prenatal care and prevention of prematurity should be a high priority.

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# APNEA OF PREMATURETY: THEOPHYLLINE V. CAFFEINE

by Harry Harrison Jr., M.D.<sup>(1)</sup>

## ABSTRACT

During a fifteen month period, 401 two channel (heart rate and respiratory impedance), 12 hour pneumocardiograms on 277 preterm infants were performed. Each pneumocardiogram was evaluated according to the following set of criteria: prolonged apnea (apnea >19 seconds or shorter if associated with heart rate of < 80bpm for >2 seconds or observed cyanosis); short apnea (apnea 10-19 seconds); periodic breathing (normal respiratory pattern interrupted by >2 breathing pauses of >5 seconds during > 1 minute duration). Apnea density was used as prime measure in determining abnormal pneumocardiograms and was defined by total apnea time (seconds) x 100 divided by recording time while periodic breathing index defined by total periodic breathing time (minutes) x 100 divided by recording time. Sixty infants (24%) had apnea densities  $\geq 5$  which prompted therapy with theophylline. Sixteen of these infants (27%) failed to resolve their apnea within 7 days (apnea density  $\geq 3$ ) and were placed on caffeine citrate. Caffeine decreased the apnea density of fourteen of these infants (88%) to 0.8 (95% CI; 0 - 2.3). Efficacy of both methylxanthines to normalize the pneumocardiogram was similar ( $p=0.5$ ). Persistent apnea unresponsive to theophylline may respond to orally administered caffeine citrate.

## INTRODUCTION

Apnea of prematurity (AOP) is a developmental disorder commonly observed in the prematurely born infant. While AOP occurs in 25% of premature infants, significant apnea is confined to a smaller subset of such infants. Significant apnea is defined as "cessation of breathing for 20 seconds or longer, or as briefer episodes associated with bradycardia"<sup>(1)</sup>.

Repetitive episodes of apnea, recurrent apnea, often occurs in infants with significant or prolonged apnea. Recurrent apnea may be defined as the recurrent "abnormal cessation of air exchange due to cessation of all

respiratory effort or only to cessation of air flow"<sup>(2)</sup>. The disorder involves incomplete interconnections and organization in the respiratory center. By definition, the disorder is self-limited and the respiratory center slowly matures after birth. AOP has been associated with psychomotor delay, failure to thrive, spastic diplegia (periventricular leukomalacia) and hearing loss<sup>(3-6)</sup>.

The apnea monitoring program was organized in 1982 as a response to the recognition that premature infants experience recurrent apnea of prematurity at or around the time of discharge from an intensive care nursery<sup>(7)</sup>. The program is the vehicle by which all data was collected. Theophylline and caffeine are frequently used in the neonatal intensive care unit to treat apnea of prematurity and weaning preterm infants from intermittent mandatory ventilation<sup>(8-12)</sup>. While the pharmacokinetics of methylxanthines is outside the scope of this study, it is noteworthy that neonates tend to methylate theophylline to caffeine<sup>(13)</sup>. However, there are only five studies, involving 112 patients, comparing theophylline and caffeine efficacy for treatment of apnea of prematurity<sup>(14-18)</sup>.

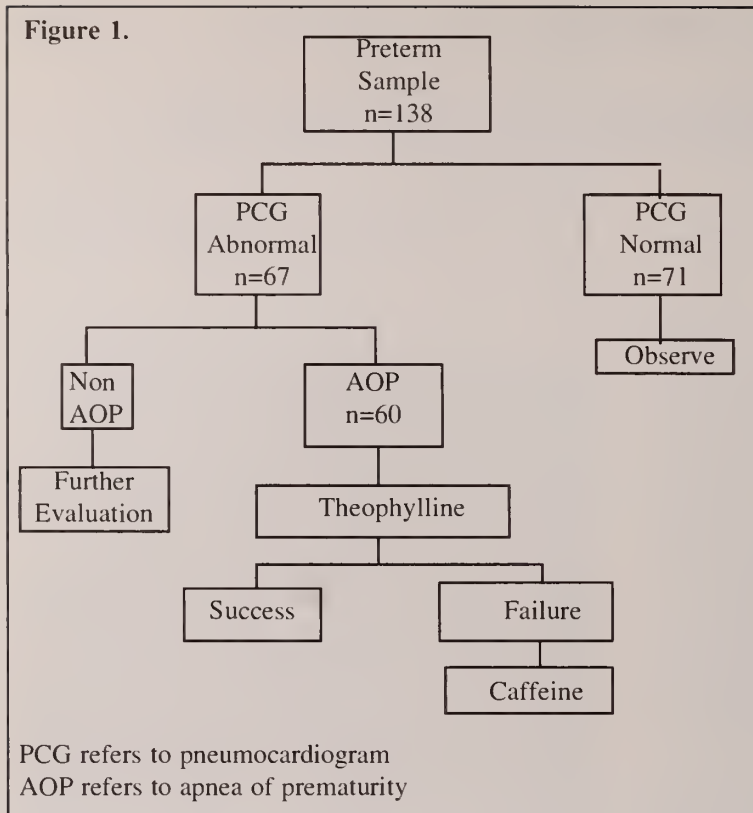
This retrospective study describes caffeine treatment of apnea of prematurity in a group of neonates in which theophylline failed to resolve their apnea.

## METHODS

Over a fifteen month period, from 11/88 to 2/90, 277 premature infants born  $\leq 37$  weeks gestational age, admitted to an intensive care unit, were observed to experience recurrent apnea and/or bradycardia. Infants who were 33 days postnatal age, had apnea density of zero (0), bronchopulmonary dysplasia, clinical seizures, presumed sepsis, or subsequently intubated were excluded from the analysis. Thirty five infants were discharged on theophylline and a home cardiorespiratory monitor without a third pneumocardiogram (PCG) or caffeine trial and were also excluded from analysis. The remaining 138 infants mean gestational age was 32.6 weeks ( $\pm 2.9$  SEM) and mean postnatal age was 14 days (range 1 to 32 days) (Figure 1). None of these infants were receiving theophylline, pressor drugs, digoxin, or caffeine at the time of their first 2 channel PCG. The PCG was started after nursing observation of recurrent apnea and/or bradycardia.

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Figure 1.



The pneumocardiogram pattern of heart rate and respiration were continuously monitored using impedance and a 2 channel paper recorder for at least 12 hours (Hewlett-Packard Neonatal Monitor). Apnea density is an expression of proportion of time which the infant experiences prolonged apnea and was used as the primary measure to determine abnormal PCG<sup>(19-21)</sup>.

Theophylline was started if apnea of prematurity was diagnosed by one of seven neonatologists who reviewed the PCG recording according to the following set of criteria: 1. no clinical suspicion of sepsis, seizures, gastroesophageal reflux, hypoglycemia or hypocalcemia AND 2. prolonged apnea defined as 20 seconds or shorter if associated with heart rate of <80bpm for >2 seconds AND 3. apnea density

$$(AD) = \frac{\text{apnea time (secs.)} \times 100}{\text{record time (mins)}}$$

An apnea density of 5 was considered abnormal.

Unlike other studies, our PCG included awake and sleep time<sup>(22,23)</sup>. We have found that premature infants experience prolonged apnea whether awake or sleep. Plasma theophylline trough levels were drawn 48 hours after initiation of maintenance dose.

A second PCG was done on all theophylline treated infants, regardless of clinically observed apnea. If this PCG showed an apnea density of <3 and there was no observed bradycardia associated with shorter apneic events, then no further treatment was indicated.

However, if the second PCG had an apnea density of

≥3 or bradycardia was observed with shorter apneic events, then caffeine citrate was orally administered. Caffeine serum concentration was assayed by high performance liquid chromatography and maintained between 10 and 25 µg/ml (Smith-Kline Bio-Science Laboratories, Van Nuys, Calif).

A third PCG was done on all infants receiving caffeine and reviewed by the same set of criteria used on the theophylline treated infants. Namely, an apnea density of <3 and there was no observed bradycardia associated with shorter apneic events, then no further treatment was indicated.

Theophylline was administered intravenously, orally or by gavage with a loading dose of 5mg/kg and a maintenance dose of 1 to 1.5mg/kg every 8 hours. Caffeine citrate was administered orally or by gavage with a loading dose of 20mg/kg (equivalent to 10mg/kg of caffeine base) and a maintenance dose of 5 to 7.5mg/kg every 24 hours. All infants remained on regular cardiorespiratory monitoring and nursing observation as practiced in the intensive care unit.

Results are expressed as standard error of mean (± SEM) or standard deviation (± SD) when appropriate. Statistical comparisons were made using X<sup>2</sup> test. Results were considered significant if p<0.05.

## RESULTS

One hundred thirty eight infants were initially evaluated for observed apnea and/or bradycardia (Table 1). Sixty one of 138 infants (61/138) subsequently received theophylline as previously described. One of these infants was excluded from the study due to discontinuance of theophylline for suspicion of necrotizing enterocolitis. The efficacy of both drugs was assessed by the abnormalities in a 12 hour, 2 channel PCG, before theophylline treatment, 2 to 5 days after theophylline, and 2 to 5 days after caffeine treatment. The apnea density in the

Table 1.

	(n= 138)	
A.D.* <3	65 (47%)	
A.D. 3.1 to 4.5	6 (4.5%)	
Apnea due to other-causes (non-AOP**)	4 (3%)	
Intervening therapy	2 (1.5%)	
A.D. ≥ 5	61 (44%)	

\* Apnea density

\*\* Apnea of prematurity

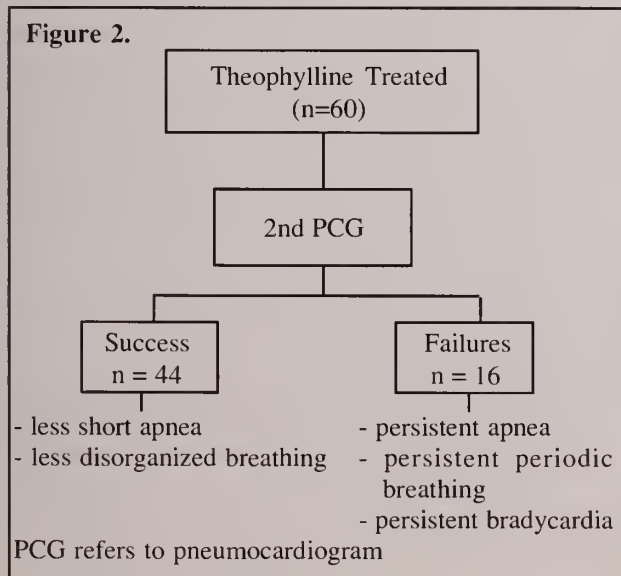


theophylline success group (44 of 60 infants) and caffeine success group (14 of 16) per 720 minutes of recording time, was significantly and similarly decreased by both drugs ( $p < 0.01$  and  $p < 0.02$  respectively). The apnea density decreased to 0.4 ( $\pm 0.2$  SEM) in the theophylline success group and 0.8 ( $\pm 0.4$ ) in the caffeine success group ( $p < 0.5$ ).

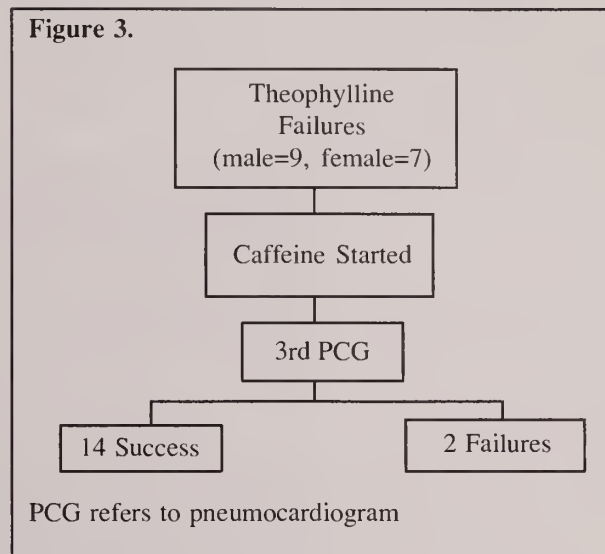
Seventy three percent of the infants treated with theophylline (44 of 60) normalized their PCG. Their mean gestational age was 32.7 weeks ( $\pm 0.4$  SEM) and postnatal age 19 days ( $\pm 11$ ) when AOP was diagnosed. Mean birth weight was 1600 grams while mean weight at diagnosis was 1660 grams ( $\pm 300$  and  $\pm 275$  SEM respectively). Theophylline was started at 18.7 mean postnatal days ( $\pm 1.7$  SEM) (Table 2).

Variable	Mean	$\pm$ SEM
Birth Weight(grams)	1600	$\pm 300$
Gestational Age (wks)	32.7	$\pm 0.4$
Age at Diagnosis (days)	19.0	+ 11
Weight at diagnosis (grams)	1660	$\pm 275$
Age at Theophylline Start (days)	18.7	$\pm 1.7$
Age at Caffeine Start (days)	26.2	$\pm 1.6$

Sixteen theophylline treated infants (16 of 60) failed to resolve their apnea, despite adequate serum level, as determined by a second PCG (Figure 2). Caffeine was started within 72 hours of the second PCG. The mean serum level, 72 hours after caffeine loading dose, was 23.5 $\mu$ g/ml (SEM  $\pm 6.3$ , range 15 - 41.4). Eighty eight percent of these infants (14 of 16) normalized their third



PCG (figure 3). Their mean weight was 1700 grams ( $\pm 300$  SEM) and caffeine was started between 14 and 32 postnatal days (mean 26.2, Table 2). The two caffeine failures (26 and 34 weeks gestational age, postnatal age 32 and 16 days respectively) remained hospitalized for greater than sixty consecutive days with other medical problems. There was no significant difference in the apnea density of theophylline and caffeine success groups ( $p = 0.23$ ).



## DISCUSSION

This study confirms earlier reports that caffeine is effective in reducing the frequency and duration of apnea of prematurity as defined by the apnea density<sup>(8,23)</sup>. This is especially important in infants who are unresponsive to theophylline. The current study is the first report; however, to use a combined index of apnea frequency and duration for clinically quantitating apnea of prematurity. This approach allows standardization for PCG interpretation and treatment. Further, since prematurely born infants also experience apnea when awake, using entire record time, rather than sleep time, standardized to 12 hours, captured apneic events in all arousal states. For these reasons, interpretation of the PCG is not blinded to clinical conditions.

This retrospective clinical observation is also different from the noted prospective studies. While Davis, et al, reported 11 caffeine treated premature infants with AOP who were unresponsive to theophylline; we started caffeine in the face of therapeutic theophylline levels<sup>(14)</sup>. While we did not report methylxanthine related complications, few were noted in infants on either or both drugs. The reports from Bairam, Fuglsang, Brouard randomized preterm infants to theophylline or caffeine where as we placed theophylline failures on caffeine<sup>(15,17,18)</sup>. Sims, et al, effectively evaluated theophylline and caffeine efficacy during weaning process of assisted ventilation<sup>(16)</sup>.

Infants in the current study were past their acute respiratory disease (mean postnatal age of 26 days).

In summary, our clinical observation suggests:

1. caffeine is as effective as theophylline in reducing the frequency and duration of apnea of prematurity
2. caffeine levels up to 25mg/ml appear safe
3. caffeine appears to have a different mechanism of action (as suggested by previous research) by increasing intracellular calcium concentrations that enhance diaphragmatic contractility (22).
4. starting caffeine in the face of a therapeutic theophylline level appears safe and effective, but needs further investigation
5. premature infants who fail to resolve their apnea while on theophylline should be started on caffeine before more invasive therapeutics are attempted.

*This study was presented, in part, at American Academy of Pediatrics, District VIII, Neonatal/Perinatal Section meeting in 1991.*

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# AN UPDATE ON WAMI IN ALASKA

Michael J. Dimino, Ph.D.<sup>(1)</sup>

The concept of WAMI was developed in 1971 as an educational agreement between the University of Washington School of Medicine (UWSM) and the states of Washington, Alaska, Montana, and Idaho. Of course, there are other programs that provide access to medical education for residents of states that do not have their own medical school. However, the WAMI Program is different in that UWSM also serves as a regional medical school and as a catalyst for improving the sciences and medical care in the WAMI states. To this end, students accepted into WAMI do their first year of medical education at their designated state university and receive some of their clinical experiences in the third and fourth year in the WAMI region. The other medical and educational opportunities available to the communities in the WAMI region will be discussed later.

The first WAMI site was established at the University of Alaska Fairbanks (UAF). During its tenure at UAF, the Program provided an outstanding medical education and succeeded in having 56 percent of Alaska WAMI graduates return to the State to practice medicine. Also, other UWSM graduates, who received part of their medical education in Alaska through WAMI, now practice in Alaska. If these WAMI physicians are counted, then the State's investment in WAMI approaches a 90 percent equivalent return rate. The impact of WAMI on the supply of Alaska physicians also can be seen in Figure 1 prepared by Dr. Roger Rosenblatt, Department of Family Medicine at UWSM. Of the top five medical schools from which Alaska physicians received their training, it is clear that UWSM has had the most impact with the advent of WAMI in 1971. WAMI physicians have practiced in

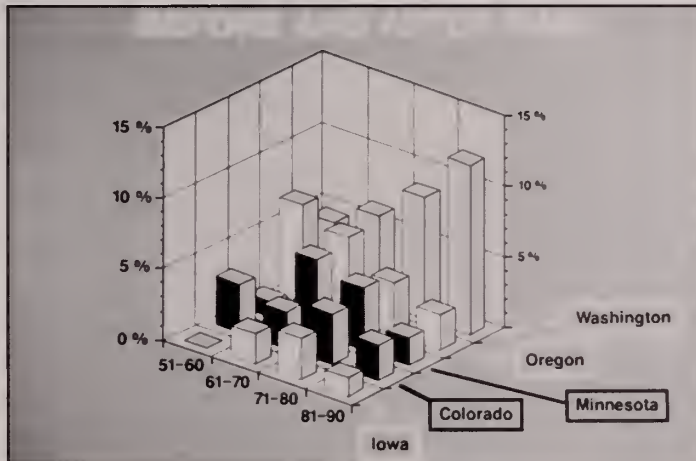
Anchorage, Bethel, Dillingham, Fairbanks, Homer, Juneau, Ketchikan, Kodiak, Kotzebue, Palmer, Seward, Sitka, and Wasilla. Unfortunately, the Program lost its financial support at UAF in 1986. However, Alaska WAMI was reestablished at the University of Alaska Anchorage (UAA) in September 1989. The Alaska WAMI Program, now known as the UAA Biomedical Program,

was able to begin on time because of the generosity of the physicians in Anchorage and because Providence Hospital provided classrooms for the first six weeks of the curriculum. The Program's teaching facilities now consist of a multi-purpose room, that serves as a lecture room/microscopic anatomy laboratory/study area, and a state-of-the-art human anatomy laboratory.

Of the 40 students accepted into the first four classes of the UAA Biomedical Program, 19 are female. The geographic breakdown of the students is: Anchorage - fourteen;

Fairbanks - nine; Kodiak - four; Juneau - three; Sitka - three; Chugiak - two; and one each from Dillingham, Kasilof, Nome, Soldotna, and Wrangell. The overall grade point average for students in the Program is approximately 3.54, with performance on the Medical College Admission Test being approximately the 85th percentile. Of the 40 students matriculating over the last four years, 30 percent come from families whose parents do not have college degrees, certainly dispelling the misconception that the Program is for the elite. Also, 85 percent of the students graduated from Alaska high schools. During the Program's tenure in Anchorage, three Alaska Natives and one Native American have matriculated.

In establishing WAMI at UAA, the University administration set four goals for the UAA Biomedical Program. These goals and a description of activities in these areas are presented below.



**FIGURE 1.** A comparison of the percentage of Alaskan physicians graduating from the University of Washington School of Medicine, Oregon Health Sciences University, University of Minnesota School of Medicine, University of Colorado School of Medicine, and University of Iowa School of Medicine. These five medical schools represent the primary source of Alaskan physicians. Graduates from these medical schools after 1990 are not included in this particular study. The figure was prepared by Dr. Roger Rosenblatt, Department of Family Medicine at the University of Washington School of Medicine.

<sup>(1)</sup>University of Alaska Anchorage Biomedical Program Anchorage, Alaska 99508.



FIGURE 2. The Entering Class of 1989: Nancy Felix, Chris Kottra, Kathy Kozak, Anya Maier, Michelle Nance, George Rhyneer, Joseph Roth, Katy Sheridan, Jon Syren, Robert Watson

- *To provide medical education for Alaskans.* The Program provides an excellent educational environment, including rural experiences, for first year medical students that prepares them to become Alaskan physicians. Data obtained from common final examinations in the various subjects show that the Alaska students consistently have been among the best at UWSM. In addition to courses for the medical students, WAMI faculty also offer science courses for both undergraduate and graduate students at UAA. Further, the WAMI faculty provide virtually all of the advising for students interested in health career fields, and contribute significantly to advising Biology and Chemistry majors. Also, the WAMI faculty volunteer their time on several committees and boards associated with medical research and the health needs of Alaska.
- *To increase the number of Alaska Natives in medicine.* UWSM and the UAA Biomedical Program are strongly committed to increasing the number of Alaska Native physicians practicing in Alaska. In addition to the two Natives who received their first year of medical education at UAF, an additional three Alaska Natives and one Native American have matriculated into the Program at UAA. To continue this recruitment effort, UWSM provides resources from their Centers of Excellence grant to prepare Alaska Native college students for medical careers. Further, UAA and UWSM work with high school Native students interested in pursuing careers in medicine, dentistry, and nursing. Also, the WAMI faculty contribute their time to teach a Human Anatomy and Physiology course in UAA's Della Keats Summer Enrichment Program for Alaska Native high school students.

Incidentally, this course includes dissection of human cadavers. Finally, UWSM has a Northwest Consortium Minority Education Program. Each year, four to six Alaska Natives are accepted in this program which is designed to increase the number of underrepresented minorities in the medical field. The UAA Biomedical faculty also present lectures to the students in this program and provide additional counseling for the participating Alaska Native students.

- *To develop biomedical research and to increase the amount of research dollars in Alaska.* A five year strategy was implemented to increase biomedical research at UAA. The research plan is entering its fourth year and it is clear that we are ahead of schedule. The Biomedical Program has hired faculty members with strong research credentials. To make the best use of our resources, all of the faculty use molecular biology to study neuromuscular disorders, cancer, and cardiovascular disease. All of the WAMI faculty either have extramural research funding or proposals that are pending. The WAMI faculty members average three scientific publications each year in prestigious scientific journals. Also, there are plans to establish a laboratory to develop devices to assist disabled Alaskans.
- *To continue to strengthen health care delivery systems in Alaska.* The UAA Biomedical Program is taking the lead in developing a plan for a Family Medicine Residency in Alaska. In



FIGURE 3. The Entering Class of 1990: Jennifer Crowe, Ben Geiman, Paul Gosink, Jane MacGregor, Marc Pellicciaro, Rhoda Roberts, Greg Saunders, Stephen Wahl, Shannon Wiegand, Danuta Zawadzka





**Figure 4.** The Entering Class of 1991: Philip Araoz, Mona Cuthbert, Todd Denking, William Dittrich, Robert Haight, Meganne Hendricks, Andrea Kizziar, Andrew Topliff, Sharon Viereck, Richard Welling

addition to providing a pool of primary care physicians, a Family Medicine Residency within the State would better train physicians for the unique medical needs of rural Alaska. Dr. Barbara Doty, a family medicine physician from the Mat-Su Valley, has played the key role in developing this program. Strong support for the residency has come from UWSM and several State groups, including the Rural Alaska Health Education Center, Providence Hospital, the Alaska Academy of Family Physicians, the Alaska State Medical Association, the Alaska Native Medical Center, and the Anchorage Neighborhood Health Center.

Because of the WAMI affiliation, Alaska health care providers have access to several resources of UWSM. These include: MEDCON, a free physician telephone consultation service which results in over 3,800 calls each year from Alaska physicians to UWSM physicians; the Rural Alaska Health Education Center, which provides education and recruitment efforts for rural Alaska health care providers; MEDEX, which is the University of Washington's physician assistant training program that accepts 4-6 Alaskans each year and is developing a satellite program in Sitka; the Pacific Northwest Regional Health Sciences Library, which offers computer accessible literature searches to Alaskan physicians; itinerant genetics and birth defects clinics in Alaska, and a collaborative fertility clinic. Also, there has been continuing medical education provided by visiting faculty from UWSM which has resulted in opportunities for working relationships with Alaskan practitioners. The Biomedical Program and UWSM continue to provide support for other health related functions in the State such as the Annual Alaska Rural Health Conference.

Thus, the State's investment in WAMI has been a cost effective alternative for a sparsely populated state without its own medical school. WAMI provides access to medical education for Alaskans, serves as a pool for Alaskan physicians, helps to improve the scientific environment at the University, and provides the Alaskan health providers medical school resources. Clearly, these UWSM activities and services would not be accessible to Alaska without the environment created by WAMI.

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# When a Doctor Plays Judge

David K. Isom, Esquire<sup>(1)</sup>

If you are a physician with hospital privileges, you may also be asked to be a judge on a hearing panel to decide whether to recommend that your colleague's clinical privileges be restricted or revoked.

If you are qualified, you should participate. Peer review is the core of a hospital's process of monitoring and improving quality health care. Besides, most hospital bylaws require you to participate if you want to keep your own privileges.

But judging your colleague can be emotional, difficult, time-consuming, and risky. This article summarizes the risks and how to avoid them.

Peer review is a high-stakes game. If a hospital fails to monitor properly the quality of health care provided, patients may suffer and the hospital risks liability for a doctor's malpractice. Several recent cases have found hospitals liable for a physician's negligence because the hospital failed to revoke or restrict privileges when proper peer review would have revealed problems.

On the other hand, a restriction of privileges - especially if the physician is not guilty of substandard practice - is devastating to the physician. Now that privilege restrictions must be reported to state and federal regulators, and to any hospital with which the physician might wish to associate, the damage to a physician's reputation and earning capacity from a negative peer review decision can be catastrophic.

The current rush of litigation arising from peer review is no surprise. Recent court decisions have expanded the rights of a physician subjected to improper review, and therefore have increased the risks to all participants in an improper peer review.

Participants in peer review are generally immune from liability under state and federal law. "Immunity" is not a promise that you can not be sued. It simply means that

neither you, the hospital, the hospital committees and staff, the hospital board, nor any witnesses or others who provide information can be held liable. But immunity for peer review is limited in three critical ways:

1. Violations of a doctor's civil rights, such as discrimination based on race, gender, age, religion or national origin, are not immunized in any way.
2. For all other types of claims, the immunity simply means that you cannot be forced to pay money damages. It does not prevent a judgment declaring that the peer review was wrongful or a judgment requiring the participants to take or not to take certain actions. Although protection against money damages provides a great comfort - a declaration that you participated in improper peer review is not a welcome prospect.
3. Immunity does not exist at all if you or the other people involved in the peer review fail to follow certain essential procedures. The real rub is that the improper acts of others might jeopardize your own immunity. You should therefore examine not only your own actions, but others' as well.

## IMMUNITY REQUIREMENTS

The conditions necessary for immunity under federal law (Health Care Quality Improvement Act) and under the law of many states are summarized below. The failure of any of these conditions may expose you to liability.

### Quality Health Care

The sole legitimate motivation for peer review is the improvement of health care. The single justifiable reason for restricting privileges is that a physician, directly or indirectly, has jeopardized competent health care. If any other motivation, such as politics, animosity, personality quirks, or financial or competitive concerns, is driving the process, you may not be immune. Personality quirks, for example, can affect quality health care, and can raise legitimate issues for peer review. But peer review driven by personality differences is wrongful unless the personality issues demonstrably threaten quality health care. The riskiest peer reviews are always those which arise from personality or political issues. Insist that the hearing focus on health care issues.

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## Facts

The person or committee proposing the review must have made a reasonable effort to obtain facts before any action is taken and before any hearing is scheduled. Once the hearing begins, your job as a judge is to decide whether the charges are supported by specific facts presented at the hearing. Absent a true emergency which may immediately threaten the life or health of a patient, no action should be taken based upon any information from any source other than evidence at the hearing. For example, neither rumor, reputation, nor even documented facts not presented at the hearing can support the restriction of privileges.

When the reasons for the review arise out of a specific case, the facts relating to that case should be specific and well-documented.

If the charges arise from a long pattern of behavior, specific examples should be provided, not just generalizations. To demonstrate the pattern, statistical evidence of morbidity and mortality should be included.

If the charge is subjective and abstract, such as concerns about "personality" or "technique" or "judgment", there should be evidence of specific incidents relating to the charges which show that health care is jeopardized in a specific way. Restricting privileges for any reason not proven by specific facts at the hearing can destroy immunity.

## Due Process

Typically, before any restriction is imposed, the physician must be given a written notice specifying the cases being criticized, or other concerns, and informing the physician that he or she has certain rights. Even if these rights are not specified in the bylaws, under federal and state law these rights normally include the right to:

- Have a hearing before any restrictions are imposed, unless there is imminent danger to the health of a patient
- Be represented by counsel
- Present relevant evidence
- Call, examine and cross-examine witnesses
- Have a written record made
- Appeal

As a judge, you will likely become involved only after this notice has been given, but be sure that it has been done. Limit the matters discussed at the hearing to those specified in the notice.

## Practice Standards

Adverse action should be taken only if the facts presented at the hearing show that the physician's practice falls below generally accepted standards within the hospital and local community. Since incompetence should be measured only as a deviation from generally accepted standards, be sure that you understand the standards against which the physician is being judged. Because standards are ill-defined or non-existent with respect to many important medical issues in most communities, take special care to clarify whether such a standard exists, how the standard has been established, what evidence demonstrates the standard, and what uncertainty or disagreement exists regarding the standard. Taking action without clear evidence of the standard the physician has allegedly violated may eliminate immunity.

## Bylaws

Study the bylaws and make sure the hearing process follows the process required by the bylaws. Medical staff bylaws usually contain the pertinent information, but hospital bylaws, fair hearing plans or even procedure manuals or bulletins might contain procedural guidelines. Most bylaws contain strict deadlines and other rules to govern peer review. Peer review proceedings that vary in any substantial respect from the process guaranteed in the bylaws can be dangerous.

## Malice or Bad Faith

If any participant in the process acts with malice or bad faith, you might not be protected. By insisting upon adherence to all bylaw procedures, and by requiring that all charges be supported by specific facts presented at the hearing, you can minimize the chance that a court may some day eliminate immunity because of bad faith or malice.

## PERSONAL CHECKLIST TO REDUCE RISK

Compliance with the following will minimize the risks of participating in peer review.

## Check Qualifications

Before you agree to participate, check the bylaws to be sure that you are qualified to serve as a hearing panel judge. If you are related by blood or marriage to the target physician, or have been involved in committees which have evaluated him or her in the past, or have personal knowledge of any of the matters in question, you might not qualify to be a judge. If you believe that you may be biased or partial for any reason, before accepting the position



discuss this with your lawyer or the hearing panel's lawyer or with the person requesting that you serve as a judge.

One of the dilemmas inherent in peer reviews that the witnesses and judges most likely to be able to evaluate a physician are physicians in the same specialty and geographic area as the reviewed physician. That is, the most competent judge of a physician is often the physician's competitor. The motives of a competitor can be challenged, however, precisely because a competitor has strong conflicting economic incentives. Although the peer review system clearly allows evidence from a competitor, the risks are simply too great to allow a competitor to be a judge. Hospitals should use physicians, lawyers or other qualified persons from outside the community to be judges if necessary rather than let any competitor act as a peer review judge. If you are a competitor of the physician, you should not be a panel member under any circumstances.

### Check Your Insurance

Many malpractice policies insure against liability for participation in peer review, but most require that you give the insurance company prompt notice of your involvement. Make sure you have given proper notice to your insurance company, and that the insurance company acknowledges coverage in writing before you get involved. The hospital may also have insurance that protects you or may be willing to indemnify you.

### Get Legal Advice

Request that the hospital provide legal counsel to the hearing panel. You can be helped considerably regarding procedure, due process and evidence by a lawyer familiar with these issues. Your counsel should be separate from the hospital's counsel, if under the applicable bylaws the hearing panel is to act as an entity independent of the hospital or its board.

### Keep the Proceedings Confidential

There are likely to be severe restrictions on what, how, and with whom you can communicate about the proceedings. Generally, you should communicate with the parties involved in the peer review only in the presence of all participants. Communication with the board should usually be limited to your written decision and other written communications of which all parties receive copies. Communication with anyone not involved in the process may subject you to severe, even criminal, penalties.

### Write Your Decision

Whether you decide for or against the criticized physician, document your decision in a written opinion which

summarizes the evidence and reasons for your decision. The process of writing the opinion will clarify the reasons for your decision. The bylaws may have specific provisions with additional requirements for the form, content and deadline for the written decision.

### CONCLUSION

Peer review is extremely important. Pleasant? Never. But proper peer review is essential to the improvement of hospital health care. It is also the promise to every physician with clinical privileges that those privileges will not be terminated without careful thought, scrupulous fact evaluation, and a fair process. By making sure that the hearing in which you are the judge is conducted according to the bylaws and legal standards, you can assure that the process achieves all these goals and that a fair decision is made.

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*This article is intended to identify legal issues applicable in many states, not to give legal advice which can be relied upon in a specific situation. Please consult with your attorney for any legal advice.*



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# For the Record . . .

## An Opportunity for Health-System Reform

by Senator Frank H. Murkowski

(Adapted from remarks by Senator Murkowski during U.S. Senate debate on a recent health-reform amendment offered by Senators John Chafee (R-Rhode Island) and Lloyd Bentsen (D-Texas.)

Mr. President, this is a good amendment that, if enacted, will make life and health a little easier for hundreds of thousands of small businesses and millions of our fellow citizens. Also, I especially appreciate an amendment that places more consumer control in the hands of the patient, where it belongs in my view, rather than in the hands of a bureaucracy.

Like a number of my colleagues who have already spoken, I am also a member of the Republican Health-Care Task Force and an original cosponsor of S. 1936. Our bill, a product of months of deliberations, would shore up only those parts of our uniquely American private health-care system that need the help. *Importantly, it would not destroy the system in order to save it*, and the amendment before this body today also respects the sanctity of the private nature of our health-care system. That's why I and many of my colleagues are supporting it.

In my judgment, we need to enhance the best parts of American health care: private physicians, nurses and other professional providers, and plentiful hospital and other health-care facilities, put in place to apply state-of-the-art technologies to keep people well and to heal the sick. I argue that we already do this job better than any other nation. I am convinced that our robust health-care system is not the problem.

Our principal health care problem is cost and access. Costs are completely out of control at over 12% of Gross National Product and \$800 billion in expenditures; and even with all this money being spent, some people, for a number of reasons, cannot gain or retain access to the system. The Republican Task Force bill would address both issues, and this amendment today is consistent with that direction. It would allow people who are disadvantaged by current costs or other factors influencing access to care, to buy and keep adequate private health insurance. We need to do everything possible to keep people protected with insurance coverage in time of illness or calamity.

We also need to reform the medical malpractice system and set up a non-litigious way of resolving such

unfortunate matters, taking malpractice cases out of clogged courts. A new approach to malpractice will allow physicians and hospitals to lower their malpractice insurance premium costs and change some of their clinical decisions as well. Then, we can get rid of the term "defensive medicine," which will become an anachronism in health-care practice. This change alone would save billions in current health-care expenditures. I am truly sorry that malpractice reform is not a part of this excellent amendment, but I hope the leaders of this body will eventually see the light as I have, and put this matter at long last before the Senate.

I don't think regulation or other forms of government control will help save any money or make for a better health-care system in our country. Better, and earlier, care for the disadvantaged—especially pregnant women and children—would not only save much money but result in a higher quality of life for our citizens. If we can do more in community and preventive health care, and intervene earlier in cases of illness or disease, there is no question that some current health-care expenditures can be reduced or eliminated, or redirected to more effective uses. This amendment helps fulfill some of that promise in prevention.

I believe that in the final analysis, old-fashioned competition is the best way to hold down health-care costs. Certainly, we have had years of attempts by the government to regulate the cost of care, and those efforts are abject failures. Have reams of government regulations held down Medicare or Medicaid costs? Hardly.

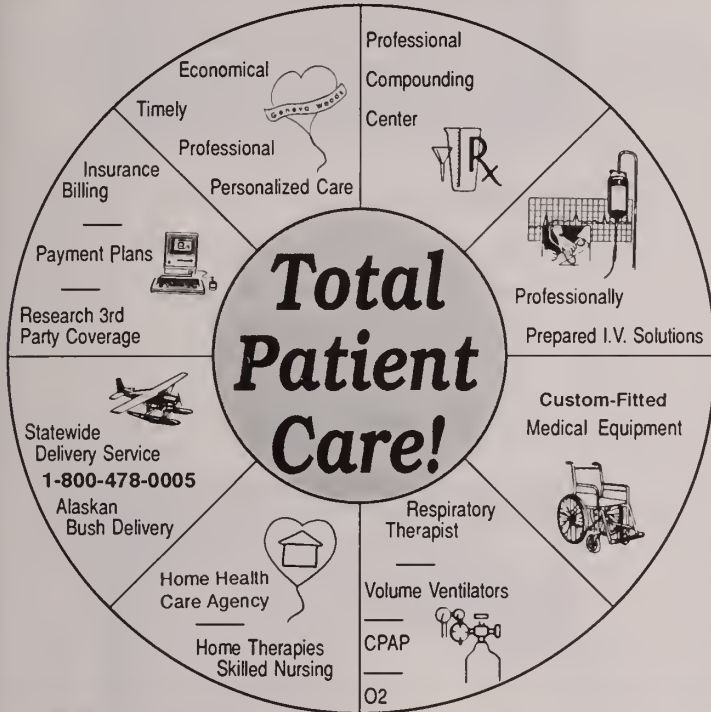
Linked with smart and informed health-care consumers—who accept a greater degree of personal responsibility for their own health—competition in an open marketplace can work as well in health care as in any other facet of our commercial or business life. However, since it is literally so vital to us, health-care competition must be very carefully monitored to ensure that people receive proper care, when needed, under proper conditions.

If bureaucrats are put in charge, as envisioned in the so-called "play-or-pay" and Canadian health-care reform

(continued on page 199)



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**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon<sup>®</sup> is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.<sup>1,2</sup> Also dizziness, headache, skin flushing reported when used orally.<sup>1,3</sup>

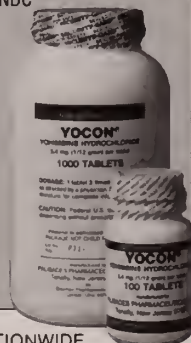
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.<sup>1,3,4</sup> 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.<sup>3</sup>

**How Supplied:** Oral tablets of Yocon<sup>®</sup> 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

#### References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
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# From the Commissioner . . .

## Taking Charge of Your own Health is a Critical Part of a Successful Employee Wellness Program



Theodore Mala, M.D.  
Commissioner of Health  
and Social Services

Employee wellness programs in both the public and private sectors have begun to show results. They are demonstrating effectiveness through directly-related reductions in lower health care costs, absenteeism, and increases in morale and physical fitness levels.

Health promotion specialists in the Alaska Department of Health and Social Services' Division of Public Health are developing an employee wellness program proposal for state employees. Their research reports that programs are working successfully in such large private corporations as Levi Straus, IBM, Boeing, Control Data, Johnson & Johnson, XEROX, and Metropolitan Life.

A sampling of companies in Alaska indicates that Alyeska Pipeline Services Company, British Petroleum, Alascom, Enstar Natural Gas, and Westmark Hotels all conduct employee wellness programs of some kind.

While statistics are not ready for the Alaska-based programs, available data from some other programs shows employee wellness programs saving substantial amounts. Control Data Corp. reports a savings of three dollars for every dollar invested, and Johnson & Johnson says they saved \$1 million, and 20 hours of absenteeism per wage employee per year over a five year period.

Public employers have not ignored the potential benefits either. The Juneau School District, the Alaska Railroad Corporation, and the City and Borough of Juneau all conduct such programs.

According to our researchers, the most significant study conducted to date on a public-sector employer was sponsored by the Centers for Disease Control between 1985 and 1990 in the city of Birmingham, Alabama. Following a 10-year period in which the city's health care costs had been rising at a rate of 19 percent a year,

Birmingham decided to initiate an employee wellness program. Within a year of the program's implementation, it began to pay off. Birmingham achieved a cost saving of \$31 million. City officials determined that they had saved more than 10 dollars for every one dollar invested in the program.

With the cost of health care continuing its steep climb, a prevention program may serve as one answer to help curb or even reduce

the high cost of providing health insurance for employees of the State of Alaska.

Such a program may also be part of the answer for other governmental employers and for the private sector as well.

An integral part of employee wellness programs is the recognition that individuals are responsible for their own health. As health care professionals we have a responsibility to aid in prevention, to assist our clients as individuals to take charge of their well being. Through employee wellness programs, employers create incentives which support employees in making healthy lifestyle decisions. We should encourage and support these efforts.

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Through employee wellness programs, employers create incentives which support employees in making healthy lifestyle decisions.

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(continued from page 189)

distribute more. In addition we have prepared a simple donation/memorial card which will be made available in quantity upon request. The intent of this card is to remember friends, co-workers, or family who rather than receive flowers at a funeral can have a memorial donation made in their name to foster the efforts of circumpolar health. It is grey with the following message.

The Albrecht-Milan Foundation of the American Society for Circumpolar Health, established in 1991, honors Dr. Earl Albrecht and Dr. Fred Milan who pioneered the concept of sharing health information among circumpolar nations and peoples. The Foundation provide financial support for the Society in its quest to increase awareness of the unique health care needs of the world's polar regions, provide health care professionals with a forum for information, and broaden the quantity and quality of health care. The Albrecht-Milan Foundation assists health scientists and students, health care delivery specialists, health administrators, and health care consumers toward the goal of better health for all residents of Earth's circumpolar lands.

The Trustees have also prepared a presentation on planned giving. It addresses topics such as estate planning, making donations through your will, and other areas for contributing to the on-going activities of our Society. If any member belongs to a group which would be interested in such a program at one of their regular meetings please contact me to make arrangements.

### SUMMARY

Much is happening. Our Society and our larger international affiliate body are growing and becoming identified as responsible organizations. I believe that with the growth of the Albrecht-Milan Foundation of the American Society for Circumpolar Health that our Society will be able to provide more assistance in the coordination and delivery of health care programs that are tailored to the unique conditions of the circumpolar regions.

More than ever we need to look to expand our membership and our activities. I am looking forward to the next six months as we all prepare to share information at the IX ICCH.

Much more in the very near future!

Carl



# Sexually Speaking . . .

## “What is the matter, doctor?”

### Infertility: Part 2

Mary B. Cavalier, M.S. <sup>(1)</sup>

There comes a time in the journey of a couple trying to conceive that all of the medical indicators state there should be no problem and yet no baby. It is this moment when they sit in front of you pleading for the magical solution. As both of us know, there is no such solution. I would like to suggest to you a four point analysis which may help the couple explore deeper for possible psychological reasons which may be playing a role in the infertility. The four points are 1) individual, 2) family of origin, 3) relationship, 4) function.

#### FOUR POINT ANALYSIS

In doing the analysis, I strongly recommend that you interview both people to gain a fuller perspective on the dynamics which may be creating problems in conceiving. The analysis is seeking the motivation behind wanting a child.

- 1) Individual (male and female): Does the person feel incomplete without a child? Is the person hoping for someone to love him or her? etc.
- 2) Family of origin (male and female): Is there pressure from the family to reproduce? Is the passing on of the family name at risk? Are there fears of continuing dysfunctional patterns (e.g. abuse - physical, sexual or emotional)? etc.
- 3) Relationship: Are there hopes that a baby will “fix” the relationship? Are there fears of commitment? etc.
- 4) Function: What function is the infertility playing in the relationship? Is it securing sex on a regular basis? Is it creating enough stress so that to give a reason to end the relationship? Is the focus on having a child providing an escape from other issues? etc.

As you can see, the four point analysis addresses the psychological aspects which may be underlining the infertility. As we all know, there are couples who just can not conceive. When this becomes a reality, it is important to point out that they may experience a grieving of the loss of what may have been (e.g. a family with a child). The couple will need to reassess the goals of the relationship and redefine the label of family as it pertains to them.

The most important gift a doctor can give their patient is the message that infertility is not a disease. Just because they may not be able to conceive doesn't mean they are “lesser than”. Patients may need help in redefining lifetime goals. The key is to give the message that life can be very fulfilling what ever the outcome may be!

#### A PERSONAL NOTE

I hope this holiday season is a peaceful one and the coming year full of wonderful surprises!

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# President's Page

by Gary L. Johnson, M.D.<sup>(1)</sup>

One of the privileges and responsibilities of the ASMA president's office is to travel and meet with leaders of the public, government, and our own profession to exchange observations and ideas. Recently, my eyes were opened to the extremely democratic structure of the AMA. None of us should feel that our problems, feelings, and potential solutions won't be heard. The AMA annual meeting in Chicago was the culmination of this process, and I was impressed.

We all come from different backgrounds and experiences that shape our values and affect our interpretation of what we see. As some of you may know, I'm enrolled at the University of Alaska-Fairbanks working toward an MBA. Like the AMA, the UAF School of Management has also opened my eyes, in this case to what business is. It's interacting with people for mutual growth and benefit, not unlike our profession. So in the spirit of that open and democratic process of the AMA, I would like to respectfully disagree with some comments made by the AMA immediate past president, Dr. John Ring. In Dr. Ring's opening comments to the assembly in Chicago, he said he has repeatedly asked the question, "Are we a profession to which business interest is incidental, or are we a business to which our professionalism is incidental?" He went on to say that, "The ultimate goal of business is profit — and that's as it should be."

I suggest to you that the goals of a well-run business and the profession of medicine are not only compatible, but even synergistic. And I believe a great deal of the crisis we as a profession, and we as a society face today results from placing "business" in an incidental role.

Let me explain: While the ultimate goal of *some* companies may be purely profit as Dr. Ring suggests, it is not the goal of the nation's best and most successful businesses. This may seem like a shocking statement, but what is being preached at some of the best business schools in America is a commitment to quality, value, service and satisfying customer needs. This is not a new idea. A sign stood at the entrance of the Newport News Shipyards for many years that exemplifies this philosophy. It said simply, "We will build the finest ships, at a profit if we can, at a loss if we must, but the best ships in America."

Now, there was a time when the party line of business was Design it, Build it, and then try to Sell it for as much as the market will bear. Not so today. The new marketing

paradigm is understanding what best benefits customers, what gives them the best value, how to provide the product or service, and then establishing a long-term relationship of service and trust. I think we, as physicians, would have a hard time disagreeing with that "business" philosophy.

We can be professional (as we must) and hold the highest standards of ethics and education (as we must); however, if we ignore the messages that are being sent to us about the way patients access our profession (the "business" side), we may not be able to effectively provide the professional services that we are so capable of giving. Today this concept is being summed up in the code word "access."

I was fortunate to have been on vacation this past summer visiting family and friends 'Outside.' My brother, who is a physics teacher at a Michigan community college, related his frustrations at getting in to see his family physician for a back complaint. He ended up seeing a chiropractor, and was satisfied with the results. He summed things up by saying, "I like my doctor, but I can't stand his P.C."

Then, while visiting my wife's family, my father-in-law, who holds a Ph.D., had minor surgery and was bedridden the entire Fourth of July weekend with what he felt was a bleeding complication. Yet this educated man of great self esteem was too intimidated to contact his surgeon to ask what he should do. I'm sure neither of these doctors will learn of the difficulties perceived by their patients, and will continue to run their business as usual. In contrast, it's hard to pick up a cereal box, eat at a chain restaurant, or follow behind a semi tractor-trailer without having your opinion solicited through a toll-free telephone number. The messages are out there for us, but I fear at times we may be so caught up in our position and profession that we fail to heed them. I am reminded of the story of the man whose faith in God was unshakable. *When it started to rain, and the street was flooding, a neighbor came by in his 4-wheel drive Jeep and offered to take the man to higher ground. He refused, saying his faith in God would carry him through this inconvenience. The rain continued to fall, and another neighbor came by, in a boat this time, and offered to take the man from his second story window. Again he refused, citing his faith that God would take care of him. Finally, as the man was standing on his roof with muddy floodwaters roaring by, and the rain still falling, a helicopter hovered overhead and dropped a rope. The man waved it away, saying he had faith. A short while later, still dripping wet and coughing water out of his lungs, the man complained to St. Peter that he had drowned back on earth*

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<sup>(1)</sup> President of the Alaska State Medical Association. Dr. Johnson is a family practice physician from Fairbanks, Alaska



despite his unshakable faith in God. A deep voice came out of the sky of heaven and said, "Who do you think SENT the Jeep, the boat, and the helicopter?"

Ten years ago, two business researchers named Peters and Waterman published a book that became a nationwide #1 best-seller. Its title was, "In Search of Excellence—Lessons from America's Best-Run Companies." They found that excellent companies were, above all, brilliant on the basics. Tools and technology did not substitute for thinking. Intellect did not overshadow wisdom. It's not hard to apply these attributes to our highly paid, highly specialized health care provider mix. Are we "brilliant on the basics," with enough emphasis on primary care and preventive medicine?

The best companies worked hard to keep things simple in a complex and rapidly changing world. They persisted. They did not take on the victim role and blame their woes on government interference and regulation. They insisted on providing top quality products and service, and did not make excuses for their failures. They listened to their employees and treated them with respect. They fawned on their customers and bent over backwards to open lines of communication to solicit their comments. Do we in medicine do enough to listen to the patients we serve, to apply the principles of the new marketing paradigm that I mentioned before? We need to take a lesson from our marketers and make an ongoing effort to find out what our patients really need and how we can improve the way we respond to those needs.

Another, more nebulous concept that is addressed in business schools is planning, defining, and setting goals, and developing policies to accomplish objectives. As physicians, we do this, mostly unconsciously, on a micro basis with each patient interaction and follow-up. Often, the goal is clear, but sometimes we have doubts about what we're really trying to accomplish. And often the patient may have a somewhat different idea of what the goal is. The "business" of medicine includes establishing the goal mutually with the patient and working together to fulfill it. Tom Monahan, the owner and CEO of Domino's Pizza, did not become successful just because he made good pizza. He succeeded because he mastered the art of managing perceptions vs. expectations on a mass scale. His customers were told ahead of time what they could expect, how much it would cost, and when they would get it. Good doctors likewise manage expectations by being teachers to their patients, helping them understand just what is possible and what is not. Granted, it is sometimes difficult to do this when the public is bombarded with health information daily, and the key stories from the New England Journal of Medicine air over the evening news before our copy even arrives in the mail. That is why a long-term, trusting relationship between doctor and patient is even more important today in this age of instant communication.

(continued on next column)



"Ron's Rule—I give myself one week to meet new people and start having fun on a locum tenens assignment. It hasn't failed me yet."

Ron Richmond, MD, joined the CompHealth locum tenens medical staff when he completed his residency. He wanted to travel. He loves to meet people.

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We, as a profession, on a macro scale, must also work with society to establish goals and set limits. Yes, we need to have tort reform. Yes, we need to decrease the "hassle factor" of practicing medicine. Yes, we need to have a more efficient claims bureaucracy. But ultimately, we need to address our acceptance of aging, disability, and death, and then decide collectively how many resources we will use to combat that trinity. We, as a society, must make the difficult choice of just what our goal is, just as a well-managed company makes this decision. So, broaden our definition of what "business" is, and use those tools and techniques to enhance our professionalism, rather than replace it.

# History of Medicine in Alaska

## A. Holmes Johnson, M.D.

Dr. Johnson, he was called. His friends addressed him as A. Holmes. The "A" was for Arthur which his wife used. Legally, he became A. Holmes Johnson when early in his practice the doctor across the hall was Arthur H. Johnson.

His father was born in England and had three brothers who were Anglican clergymen. He was first a Methodist circuit rider in Iowa, where A. Holmes Johnson was born, and became the first Methodist Bishop in South Africa.

There were three children in the family. A. Holmes had a brother Darlow, who became a Methodist minister; a sister, Dorothea, who moved to South Africa, married and became an accomplished poet.

During one summer, for a lark, A. Holmes rode in a cattle car tending his brother's animals to Drane, Oregon. Here Darlow, who in addition to being a pastor, became the publisher and printer of the town newspaper. A. Holmes helped with this.

During his youth, he spend three months at Oxford University. He earned his B.A. at Morningside College in Sioux City, Iowa and his M.D. at Northwestern University in Chicago. Following this he spent two years as an intern at Brooklyn Methodist Hospital in Brooklyn, New York.

Frostina Bishop, called "Frostie," entered the Methodist Episcopal School of Nursing. She caught the eye of Dr. Johnson. Frostie still has the year book, which she edited, which contains delightful pictures of the fledgling nurses in high, stiff collars, small capes and identifying cap. She recalls the high-topped black shoes and black stockings. She remembers with amusement that the school, notwithstanding rigid regulations regarding marriage, allowed her to graduate ten days early so that A. Holmes' father, who was returning to South Africa, could marry them.

They went to St. Helens, Oregon where Dr. Johnson began his practice. He was on the staff of the general hospital and also served on the Board of Directors of the Multnomah County Hospital. Their only child, Robert Holmes, was born there.

Four years later, they moved to Portland where A. Holmes began the practice of surgery. At that time, the American College of Surgeons required reports of one hundred major surgical operations done in order to become certified. Dr. Johnson became a Fellow. He taught

surgery of the hand at the medical school and joined the surgical staff at the Good Samaritan Hospital where he was also supervisor of the interns.

In 1937 he received a letter from Libby, McNeil and Libby Canning Company asking if one of the interns might want to serve as company physician for the summer at Neknek, Alaska. The salary was \$1500. In the depression years, earning only \$4000 himself, this looked good, so Dr. A. Holmes went.

That summer he took care of injuries and illnesses, learned to mend nets, and flew all over Alaska delivering babies. He delivered Dr. Louis Salazar's wife in Point Barrow. His visits to the villages of Alaska, especially to Kodiak, made him determined to return. He stopped at Juneau to talk to Dr. Councilman, the Terri-

torial Commissioner of Health.

In February 1938, Dr. A. Holmes Johnson arrived in Kodiak. There was no hospital and the Coast Guard cutter evacuated those who needed hospital care. On April 30th, Fostina and Bob arrived. They came by boat to Seward and then on the mail ship, Star, to Kodiak, a beautiful, sleepy village of six hundred.

The family moved into a one-bedroom home overlooking the dock and the channel. Bob room was a loft with a single window which often served for entrance or egress via a rope, although the main entrance was through his parent's bedroom closet. One of his friends fell out the window and broke his arm.

Dr. Johnson converted the dining room of this house into an office. One youth was brought to Kodiak with an acute abdomen. Urged by the Coast Guard cutter's doctor, who realized that delay might be fatal, Dr. Johnson operated. Frostie sterilized instruments in a pressure cooker and ironed sheets with a hot iron to make them sterile. A spinal block was given and the appendix removed. The patient was placed on a stretcher and moved out the back window to the Sunbeam Hotel where the family was instructed on how to handle post-operative recovery.

At one time, Frostie gave open drop ether to a patient during a difficult forceps delivery and realized afterwards that she had been doing this right next to an open lamp.

---

---

### Dr. A. Holmes Johnson delivered five babies in four days walking from house to house . . .

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Electricity was supplied to the Johnson home by a gas powered electric light plant. Once, during surgery the lights went out and the operation proceeded by flashlight.

When necessary, Dr. Johnson made calls on snowshoes. In a rainstorm, he drove across a bridge to deliver a baby. When the bridge washed out, he had to abandon the car, wade the stream and take a taxi home.

One winter when a wedding party was shipwrecked on the way to Kodiak, four brothers and a cousin suffered frozen feet and legs. Dr. Johnson had to perform multiple amputations, eleven in all. The men were sent to Seattle for rehabilitation. From there they wrote back, "Gee, Doc, we have the best looking stumps down here."

The need for a hospital was urgent. Edward W. Griffin, an accountant for the W. J. Erskine Company, successor to the Russian American Company, had already started to raise funds. Dr. Johnson personally drew plans for a 14 bed hospital. When the money was available, building materials were shipped, but on the way the ship went down. So they started again. In 1940, the Griffin Memorial Hospital was dedicated by Judge Anthony J. Dimond. However, in the last weeks before it opened, Dr. A. Holmes Johnson delivered five babies in four days walking from house to house and claiming aloud, "If the hospital doesn't open soon, I'll drop dead."

The hospital was privately operated at first, but later was managed by the Grey Nuns of the Sacred Heart of Philadelphia. They were dedicated and compassionate women who remained managers until ten years after the Griffin Memorial Hospital was replaced by a new hospital in 1968.

Then came World War II. Kodiak was an outpost and nine Canadian planes were sent for its defense. The Naval Station, which had been started in 1939, was not yet completed. The United States was scarcely in the war when the Japanese bombed Dutch Harbor, 600 miles to the southwest, and invaded Attu and Kiska where they were to remain for a year. It is believed that the diversion of Japanese ships to Alaska contributed to the American success at the Battle of Midway.

With the Naval Station came a dispensary and several doctors. This did not relieve the local medical situation since there was no obstetrician and Dr. Johnson added the Navy wives to his delivery schedule. The Kodiak community grew steadily during this time and finally an assistant was drafted. He remained less than a year before going to Palmer to practice. Dr. Johnson was left busier than ever.

Dr. A. Holmes Johnson was on Kodiak Island for nine consecutive years. Then, Dr. Joel Baker, Chief of Surgery at Virginia Mason Hospital, who was making a tour of Alaska medical facilities for the United States Public Health Service, recommended that the Navy doctors be directed to cover Dr. Johnson's practice so that he could get away.

Dr. Johnson was involved in the organization of the city and served on the first city council. He was president of the Kodiak Rotary Club. He attended the first Alaska Territorial Medical Association meeting and became its third president. Frostie helped form the first Auxiliary and started the custom, which was appropriate for the time, of the Auxiliary president being from the place where the next convention would be held.

There were few things in which the Johnson were not involved. The project with which they are best identified is the "A. Holmes Johnson Memorial Library." It was started by volunteers in a skid shack with a \$1000 federal grant. The hospital administrator, Sister St. Hilary, a librarian, trained the volunteers. Frostie did the cataloging of books and was relieved when told by Sister, "If you can find the books from the card, you're doing well." To provide continued funding, the Rotary held a gala carnival every year, until the library became part of the city budget. At that time, Frostie, became the salaried librarian. Dr. Johnson who had saved every issue of the Kodiak Mirror, had them microfilmed.

1964 was overwhelming. A Holmes, Frostie and Bob were traveling in Australia when the Good Friday Earthquake occurred. The resulting tsunami wrecked havoc in Kodiak. One wave came within three feet of the corner of Sprucehaven, the Johnson residence. While the house was unharmed, there was no road access, electricity or water supply for many months.

Dr. Johnson became Chairman of the Planning and Zoning Committee for the rebuilding of Kodiak.

He had been troubled with indigestion and finally went to Virginia Mason Hospital where his friend, Dr. Joel Baker, performed a laparotomy and found an inoperable cancer of the pancreas. He went home to Sprucehaven where he died on August 24th.

His ashes were sprinkled over the sea surrounding the island he loved. His was a life well and usefully lived. Kodiak was admirably served by Dr. A. Holmes Johnson.

Gwynneth Gminder Wilson  
Auxiliary

*I am indebted to Mrs. A. Holmes Johnson (Fostina) for the information in this article which is from an interview with her, July 2, 1992.*

# GLIMPSES OF ALASKAN MEDICAL HISTORY

Edited by Robert Fortuine, M.D.

## A baffling disease from the land of volcanoes (1835-1840)

Eduard Blaschke (or in the Russian version of the name, Eduard Leonidovich Blashke) was perhaps the most famous of the physicians who served in Alaska for the Russian-American Company during the period 1820 to 1867. Like so many of the physicians in Russia at this time, he was an ethnic German from the Baltic countries. He joined the company at the age of 24, shortly after completing his medical studies, and arrived in Sitka, or New Archangel, in October 1835, after a seemingly endless trek across Siberia and a sea voyage from Okhotsk, near present-day Magadan.

Put in charge of the hospital and medical services of the colonies, Blaschke was immediately confronted with the terrible smallpox epidemic described in the previous article. He expanded services for the sick at the capital and mounted an extensive vaccination program in the colonies in a largely vain attempt to curb the rapid spread of the disease among susceptible Alaska Natives. Despite Blaschke's heroic attempts to send staff to vaccinate those in remote areas, only in the Aleutians, where he personally visited and directed the program, could the people be persuaded on any scale to accept the vaccine, with the result that they were largely spared the horrors of the epidemic. The epidemic killed up to a third or more of the Natives of southeastern Alaska, the Pacific rim, Kodiak Island, and southwestern Alaska.

Blaschke left Sitka in 1840 to return to Russia, where in 1842 he published a monograph on the "medical topography" of New Archangel, the first scientific analysis of the geography, climate, natural history, and health conditions of the region. This treatise, in fact, served as his dissertation for the advanced degree of Doctor of Medicine at the Imperial Academy of Medicine and Surgery at St. Petersburg. Written in Latin and not yet available in a published translation, it is a treasurehouse of information on Alaska and especially on the health of its inhabitants, both Russian and Native. (The next two articles in this series will also be taken from this work.)

The present text (and perhaps a particularly appropriate topic this year) describes a bizarre disease which Blaschke encountered in a number of Aleuts living within the shadow of two of Alaska's most impressive volcanoes. What exactly this puzzling disease is, and whether it has a genetic basis or is indeed in some way related to the volcanoes themselves, I leave to better clinicians than I.

---

"In two settlements, one named Shishaldin on Unimak Island, and the other called Pavlovskaya, on the Alaska Peninsula near St. Paul Bay, there are women, and far more

rarely men, who are affected by a particularly striking form of elephantiasis, the symptoms of which are as follows: the disease begins with malaise lasting a whole month or more, with weakness, loss of appetite, abdominal distention, and sometimes fever. A cachectic appearance results: the patients lose weight and in the last stages the feet, face, and finally the whole body becomes swollen. This swelling is partly edematous, leaving a cavity under the pressure of the finger, and partly indurated--almost scirrhus. The hair falls out and large deep fissures develop in the skin which are covered over with thick, uneven, bluish or brownish crusts, giving the bald sufferers such a horrible demeanor that they nearly lose their human appearance. In addition, a hectic fever and symptoms of wasting supervene; and often after many years of extreme suffering, death at last follows. I have been unable to discover the cause of this disease and why it does not occur in other settlements, but all the inhabitants there have a cachectic appearance. It seems to me most likely that the water which flows down from Shishaldin and Pavlov volcanoes is the cause\*, and also certain exhalations from the earth occurring in the vicinity of these two mountains. These people differ in no way from other Aleuts in their lifestyle or in their food, except that here and there they eat reindeer meat, and the people of Shishaldin also eat a certain gelatinous vegetable in the region that grows about five inches (2 thumbs) thick above the sandy soil covered with turf: this plant seems to belong to the genus *Tremellae* or *Algae*.

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\*\*\* Although the drinking water displays no strange qualities of smell, taste, or color, the water that collects in a small lake in the neighborhood is not unlike beer in density and color: the lake for this reason is called Beer Lake by the inhabitants."

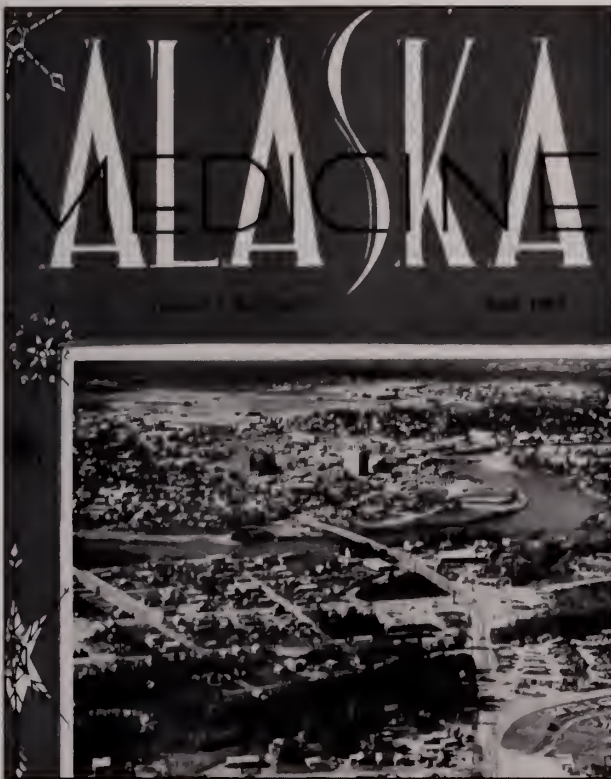
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2. Pierce, Richard A. *Russian America: A biographical dictionary*. Kingston, Ontario/Fairbanks, Alaska: Limestone Press, 1990. Pp. 62-63.



# From Out of the Past — Over 30 Years Ago

by Gloria K. Park, M.D.



Volume 4, No. 2

[Fairbanks]

June 1962



Volume 4, No. 3

[Fairbanks]

September 1962

## SCIENTIFIC ARTICLES:

*"Influenza B at Fort Yukon"* by James Maynard, M.D.  
*"Hypothermia and Rapid Rewarming"* by Marshall Simpson, M.D.

Report of a case - 90 minutes of warm water to successfully resuscitate an 18-month-old child found unresponsive, irregular heart rate of 60 and grunty respiratory rate of 12.

*"A Case of Agranulocytosis"* by Winton Wilcox, M.D.  
The cause was probably Librium.

*"Fat Embolism"* by Drs. Theodore Shohl, Don Kettelkamp and William J. Mills.

## EDITORIALS & REPORTS:

*"Mid-air Midwifery in Alaska"* by Elizabeth Tower, M.D. Alaskan bush pilots, the taxi drivers of the tundra, have of necessity officiated at some deliveries. The first recorded mid-air delivery was in 1938 in a Gull Wing Stinson, piloted by Jim Dodson, whose one-man airline then adopted the slogan, "We Deliver Anything." He

delivered again in 1945, at night, with the only illumination coming from the plane's instrument panel.

Dr. Jean Persons delivered a patient on a plane in 1954 while the pilot held a flashlight, and loaned a pen knife to cut the cord.

In October 1961 an account of a mid-air delivery was taped by the FAA. Pilot, Don Sheldon, requested advice from a physician, so the Elmendorf radio control operator relayed questions and answers back and forth between Don Sheldon, Dr. Gloria Park, and both parents in the plane. Baby, mother, father and pilot all did fine.

[I also recall another mid-air delivery by a native mid-wife on a cargo plane out of Unalakleet. For privacy she made a tent out of blankets suspended between cargo boxes and performed a breech delivery.]

*"Five Years of Medical Observations in the Colonies of the Russian-American Company"* by Drs. Romanowsky and Frankenhauser. This report was first published in 1849. Especially interesting were treatment of syphilis and mumps and the use of smallpox vaccine. Deaths from

consumption were mentioned and spitting of blood so common "that it is hardly paid any attention." Apparently 25 percent of the deaths were from consumption, and consumption or phthisis in the Creoles was felt to be hereditary.

"*The Sisters of Providence in the Northwest*" by Sister Elizabeth Clare. Their first hospital was in a log cabin in Vancouver, Washington in 1858. They established a hospital in Nome in 1902, in Fairbanks in 1906, and in Anchorage in 1939.

The Alaska Department of Health reported 28 non-fatal cases of clam poisoning during the summer.

The first community blood bank in Anchorage opened July 1962.

Alaska has a tuberculosis case rate of 112 (per 100,000 population) which is three times the national average.



Dr. Reitlinger retires:

This month sees the retirement of Karola Reitlinger, M.D. from the tuberculosis control division of the Alaska State Department of Health. When Doctor Reitlinger came to Alaska in 1948 she brought with her many skills that made her ideally suited to the difficult and demanding job she undertook.

From 1948 until 1952 she was based in Juneau. Her work took her, at times, to native villages, twice to brief tours of duty as Director of Seward Sanatorium, and twice to sea on the M.S. Hygiene, to remote areas of Cook Inlet, Prince William Sound, and the Aleutians. Of the last ten years, she has spent the greatest part of her time in Anchorage. Here she has been occupied reading chest survey films and correlating these with clinical informa-

tion and family histories obtained largely through the public health nurses in the field, and in giving recommendations for treatment and follow-up on the basis of her findings and information available.

To her, X-rays were not X-rays alone, but people with conditions or illness and families and needs, in environments where certain things were possible and others not.

[She knew the tuberculosis cases so well that she could identify the patients and their villages by looking at the X-rays with name plates covered. I was often delighted to see someone in chest conference try, but fail to confuse her.]

#### ASMA ANNUAL MEETING 1962:

Physician of the Year Award went to Dr. Robert Wilkins of Anchorage. Dr. Paul Hoagland of Fairbanks received the A.H. Robbins award for community service.

Resolutions were passed regarding AMPAC, relative value fee schedules, adoption legislation, maternal and perinatal morbidity, mental health program and Kerr-Mills legislation.

#### MUKTUK MORSELS:

Sixteen babies for Alaskan physicians were reported in Alaska Medicine in 1962 including one in an elevator - delivered by the father, Mike Bierne, M.D.

Drs. Elmer Gaede and Paul Isaak take turns flying their planes from Soldotna to Seldovia to hold clinic.

Dr. David R.L. Duncan is the new health officer for the Greater Anchorage Health District.

The First Annual Professional Ski Race was held at Mt. Alyeska with the Dandy Docs winning over the Galloping Geologists and the Bashful Barristers. Physicians involved were Bob Whaley, George Hale, Perry Mead, John Tower, Betsy Tower and George Wichman.

Dr. Milo Fritz is busy planning his campaign for Governor of Alaska.

Dr. Robert Shuler married Charlotte Trent in Sitka.

John Brown, M.D. of Cordova plans to hold itinerant clinics in Yakutat.

Juneau physician, William Whitehead won the democratic primary for State Representative.

Cordova physicians John Chapman and Jean Arnold were married in April and have established the Cordova Medical Clinic.

Another husband and wife team of physicians, Charles and Betty Whitehead, plan to provide medical services in Seldovia.

The new Alaska Psychiatric Institute was formally dedicated in September 1962. The new 175 bed Providence Hospital opened in October.

Dr. Elizabeth Tower recently completed flying lessons and soloed.



Dr. Bill Rader has returned to Anchorage after completing a psychiatric residency.

Dr. Will A. Chase is retiring to Washington state after 65 years in the North. He served 24 terms as mayor of Cordova and established the first hospital there.

[We'll present more information on him in the next issue and also reprint an article on Dr. Joseph Romig that was published in Alaska Medicine, December 1962.]

(continued from page 184)

models, they will see themselves as successful when they require physicians, hospitals and other providers to ration care in order to save money. That's not progress in my view.

I do not believe that government—at whatever level—is the best judge of what should be done or what it should cost. In the mainstream, ours is a uniquely private system of committed professionals, who collectively make up the world's greatest health-care asset. I want to see it thrive, not be strangled by government red tape. That's why I support the amendment by the Senators from Rhode Island and Texas—it leaves the private system intact and permits a number of people—individual citizens and families—to stay in, so that our superb health-care system can serve them, too.

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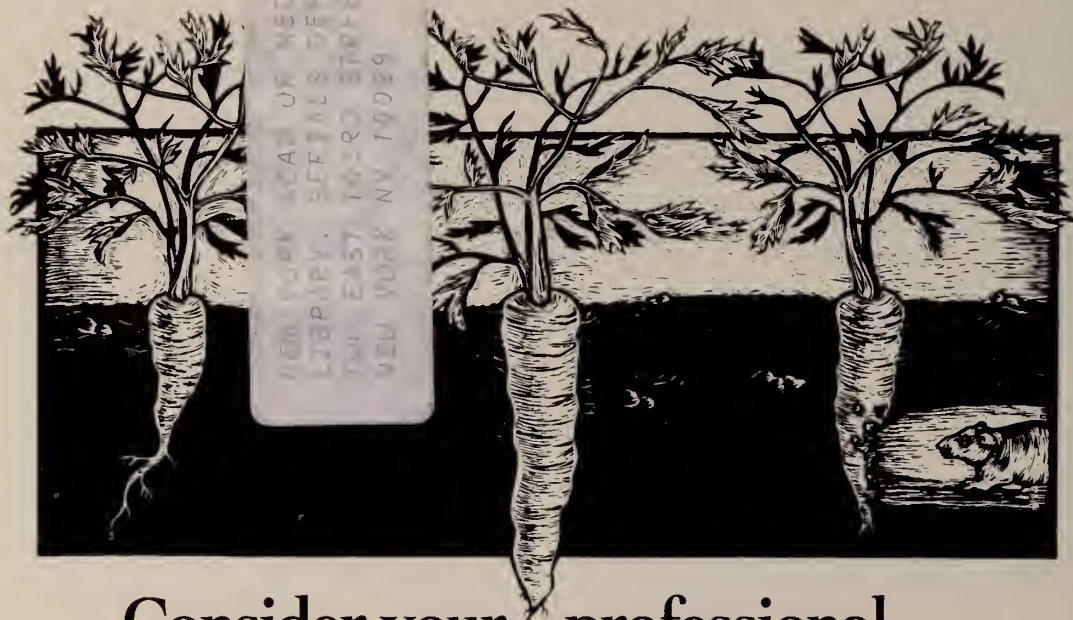
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# THE HISTORY OF THE

## REPUBLIC OF THE UNITED STATES

The history of the United States is a story of growth, struggle, and achievement. From the first European settlements to the present day, the nation has evolved through a series of challenges and triumphs. The early years were marked by the search for a common identity and the establishment of a government that could unite diverse peoples. The American Revolution was a pivotal moment, leading to the birth of a new nation based on the principles of liberty and democracy. The subsequent decades saw the westward expansion of the continent, the growth of industry, and the emergence of a powerful global superpower. The 20th century was a period of significant social and political change, including the civil rights movement, the space race, and the Vietnam War. Today, the United States continues to face new challenges and opportunities, but its core values of freedom, justice, and innovation remain the foundation of its identity.



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# REPORT

The following report was presented at the meeting of the American Medical Association, Chicago, Ill., June 15, 1914.

The subject of the report was the "Effect of the War on the Medical Profession." The report was presented by Dr. J. H. H. [Name], of [City, State].

The report discussed the various ways in which the war had affected the medical profession. It pointed out that the war had created a great demand for medical services, and that this demand had led to a number of important changes in the medical profession.

One of the most important changes mentioned in the report was the increased emphasis on military medicine. The report stated that the war had shown that military medicine was a distinct and important branch of the medical profession, and that it was necessary to have a large number of well-trained military physicians.

The report also discussed the effect of the war on the general medical profession. It pointed out that the war had led to a number of important changes in the way in which medical services were delivered. For example, it had led to the development of new methods of diagnosis and treatment, and to the use of new medical instruments and equipment.

The report concluded by stating that the war had had a profound effect on the medical profession, and that it was necessary to continue to study the effects of the war on the medical profession in order to make the most of the opportunities that it had created.





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